RIVANNA
WATER & SEWER AUTHORITY

Board of Directors Meeting

August 25, 2020
2:15pm

RIVANNA WATER & SEWER AUTHORITY
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BOARD OF DIRECTORS

Regular Meeting of the Board of Directors of the Rivanna Water & Sewer Authority

DATE: **August 25, 2020**

LOCATION: **Virtually via ZOOM**

TIME: **2:15 p.m.**

AGENDA

1. ***CALL TO ORDER***

2. ***STATEMENT FROM THE CHAIR***

3. ***MINUTES OF PREVIOUS BOARD MEETINGS***
   a.Minutes of Regular Board Meeting on July 28, 2020

4. ***RECOGNITION***

5. ***EXECUTIVE DIRECTOR'S REPORT***

6. ***ITEMS FROM THE PUBLIC***

7. ***RESPONSES TO PUBLIC COMMENTS***

8. ***CONSENT AGENDA***
   a. *Staff Report on Finance*

   b. *Staff Report on Operations*

   c. *Staff Report on Ongoing Projects*

   d. *Staff Report on Wholesale Metering*

   e. *Approval of Flexible Benefits "Cafeteria Plan"*

   f. *Updated Employee Handbook*

   g. *Reimbursement Resolution – CIP Funding*

   h. *Financial Policy Update*

i. Capital Improvement Plan Amendment and Approval of Engineering Services – Moores Creek 5kv Electrical System Upgrade – Hazen & Sawyer

j. Construction Contract Award and Capital Improvement Plan Amendment– Sugar Hollow Dam Rubber Crest Gate Replacement

k. Approval of Engineering Services – South Fork Rivanna River Crossing Project – Michael Baker International

l. Construction Change Order Authorization – Albemarle-Berkeley Wastewater Pump Station Storage Basin Demolition – Pleasant View Construction

m. Amendment of Bylaws to Update The Purchasing Limitations of the Executive Director

9. OTHER BUSINESS

a. Presentation: Crozet Water Projects Update; Jennifer Whitaker, Director of Engineering & Maintenance

b. Presentation: Buck Mountain Master Plan; Andrea Terry, Water Resources Manager

(JOINT SESSION WITH THE RSWA)

c. Presentation: Strategic Plan Update; Katie McIlwee, Communications Manager/Executive Coordinator

10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

11. CLOSED MEETING: *Personnel Review*

12. ADJOURNMENT

GUIDELINES FOR PUBLIC COMMENT AT VIRTUAL RIVANNA BOARD OF DIRECTORS MEETINGS

If you wish to address the Rivanna Board of Directors during the time allocated for public comment, please use the “chat” feature in the Zoom Meeting interface.

Members of the public who submit comments will be recognized during the specific time designated on the meeting agenda for “Items From The Public.” The comment(s) will be read aloud to the Board of Directors only during this agenda item, so comments must be received prior to the end of this agenda item. The comments will be read by the Rivanna Authority’s Executive Coordinator/Clerk of the Board.

If you would like to submit a comment, please keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. In order to give all who wish to submit a comment proper respect and courtesy, the Board requests that commenter follow the following guidelines:

- Submit your comment prior to the start of or during the “Items from the Public” section of the Agenda.
- In your comment, state your full name and address and your organizational affiliation if commenting for a group;
- Address your comments to the Board as a whole;
- State your position clearly and succinctly and give facts and data to support your position;
- Be respectful and civil in all interactions at Board meetings;
- The Board will have the opportunity to address public comments after the public comment session has been closed;
- At the request of the Chairman, the Executive Director may address public comments after the session has been closed as well; and
- As appropriate, staff will research questions by the public and respond through a report back to the Board at the next regular meeting of the full Board. It is suggested that commenters who have questions for the Board or staff submit those questions in advance of the meeting to permit the opportunity for some research before the meeting.

The agendas of Board meetings, and supporting materials, are available from the RWSA Administration office upon request or can be viewed on the Rivanna website.

Rev. May 20, 2020

CALL TO ORDER

STATEMENT OF CHAIR TO OPEN MEETING

This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority. I would like to call the August 25, 2020 meeting of the Board of Directors to order.

Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15th, 2020, and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, and the Resolution of the Authority authorizing the adoption of procedures for electronic public meetings and public hearings, adopted by the Authority on May 26, 2020, we are holding this meeting by real time electronic means with no board member physically present at a single, central location.

All board members are participating electronically. This meeting is being held pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6(e) of the County's Continuity of Government Ordinance. All board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director at any time.

ROLL CALL:

Ms. Hildebrand: Please state your full name and location.
Mr. O'Connell: Please state your full name and location.
Dr. Palmer: Please state your full name and location.
Mr. Richardson: Please state your full name and location.
Dr. Richardson: Please state your full name and location.
Mr. Snook: Please state your full name and location.
And I am Mike Gaffney and I am located at _______________.

Joining us today electronically are the follow Authority staff members:

Bill Mawyer, Executive Director
Lonnie Wood, Director of Finance & Administration
Jennifer Whitaker, Director of Engineering and Maintenance
Dave Tungate, Director of Operations
Andrea Terry, Water Resources Manager
Katie McIlwee, Communications Manager & Executive Coordinator
John Hull, Software Analyst

We are also joined electronically by Kurt Krueger, counsel to the Authority.

RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
July 28, 2020

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, July 28, 2020 at 2:16 p.m. via Zoom.

Board Members Present: Mike Gaffney, Dr. Tarron Richardson (arrived at 2:21 p.m.), Dr. Liz Palmer, Jeff Richardson, Gary O'Connell, Lauren Hildebrand.

Board Members Absent: Lloyd Snook.

Rivanna Staff Present: Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, Matt Bussell, Andrea Terry, John Hull.

Attorney(s) Present: Kurt Krueger.

1. CALL TO ORDER
Mr. Gaffney called the July 28, 2020 regular meeting of the Rivanna Water and Sewer Authority to order at 2:16 p.m.

2. STATEMENT FROM THE CHAIR
Mr. Gaffney read the following statement aloud:

"Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15th, 2020, and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, and the Resolution of the Authority authorizing the adoption of procedures for electronic public meetings and public hearings, adopted by the Authority on May 26, 2020, we are holding this meeting by real time electronic means with no board member physically present at a single, central location.

"All board members are participating electronically. This meeting is being held pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6(e) of the County's Continuity of Government Ordinance. All board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director at any time."

Mr. Gaffney called the roll call.

Ms. Lauren Hildebrand stated that she was located at 305 4th Street Northwest in Charlottesville.

Mr. Gary O'Connell stated that he was located at 168 Spotnap Road.

Dr. Lizbeth Palmer stated that she was located at 2958 Mechum Banks Drive in Albemarle County.

Mr. Jeff Richardson stated that he was located at 401 McIntire Road (Albemarle County Office Building) in Charlottesville.

Mr. Mike Gaffney stated that he was located at 3180 Dundee Road in Earlysville.

Mr. Gaffney noted that Dr. Tarron Richardson and Mr. Lloyd Snook had not joined the meeting.

Mr. Gaffney stated that the following Authority staff members were joining the meeting: Bill Mawyer (Executive Director), Lonnie Wood (Director of Finance and Administration), Jennifer Whitaker (Director of Engineering and Maintenance), Dave Tungate (Director of Operations), Andrea Terry (Water Resources Manager), Katie McIlwee (Communications Manager and Executive Coordinator), and John Hull (Software Analyst).

Mr. Gaffney stated that they were also joined electronically by Mr. Kurt Krueger (Counsel to the Authority).

3. MINUTES OF PREVIOUS BOARD MEETINGS

a. Minutes of Regular Board Meeting on June 23, 2020

Mr. Gaffney asked board members if they had comments or changes.

Dr. Palmer stated that she had one small change that she had already sent Ms. McIlwee. She stated this change was on line 49 and was a correction of the spelling of her name.

Dr. Palmer stated that in the minutes of the last meeting, Mr. Mawyer mentioned that they received the $341,000 grant from Natural Resource Conservation Service (NRCS) and that it would pay for 70% of the cost of design and construction. She stated that she was curious as to what this was for -- if it was for the design of the pipeline, or what the 70% of the cost of design and construction was for, as it did not say it in the minutes, and she could not recall.

Mr. Mawyer replied that the $341,000 is to pay for a planning study for the Beaver Creek Dam modification project. He stated that when this is finished, they will apply for design and construction dollars for the projects, which would include the dam as they modify the spillway. He stated that they hope NRCS will also pay for a portion of the cost to construct the new raw water pump station, and possibly the pipe from the pump station to the Crozet water treatment plant. He stated that they will pursue funding for all of the work, but they have to work with NRCS to see what parts they would approve.

Dr. Palmer asked if they were talking about the infrastructure from Ragged Mountain to Observatory Hill, predominantly.

Mr. Mawyer replied no. He stated that this was for the Beaver Creek Dam project.

Dr. Palmer stated that this made more sense. She stated that it didn't say this in the minutes and that it looked like it went with Ragged Mountain, so she was confused and could not remember.

Mr. Mawyer stated that there was no grant money for the pipeline from Ragged Mountain to the Observatory WTP. He stated that the Beaver Creek Dam work is based on the dam safety standards that were changed some years ago, requiring a larger spillway. He stated that NRCS, which is part of the federal Department of Agriculture, gets some federal funding to support these types of projects, which is what Rivanna is applying for.

Dr. Palmer suggested that they look at lines 201-203 in the minutes to see if there was something missing. She stated that if someone goes and reads this, they will not recognize that it goes with the Beaver Creek Reservoir. She stated that she was sure that when Mr. Mawyer was speaking, he gave that information, but it was not in the minutes.

Mr. Mawyer stated that they could insert some words that would make it clear that it was for the Beaver Creek Dam Improvement Project.

Mr. Krueger stated that they could do this as an editor's footnote at the bottom.

Mr. Krueger noted that Dr. Richardson had joined the meeting.

Dr. Tarron Richardson stated that he was located at City of Charlottesville City Hall.

Mr. O'Connell moved that the board approve the minutes of the previous board meeting, with the editor's note and the correction on line 49. The motion was seconded by Dr. Palmer and passed unanimously (6-0). (Mr. Snook was absent.)

4. RECOGNITIONS
There were no recognitions.

5. EXECUTIVE DIRECTOR'S REPORT
Mr. Mawyer stated that he wanted to congratulate and recognize Mr. Brian Haney, who was recently promoted to the Wastewater Assistant Manager position at Rivanna. He stated that Mr. Haney has been on the team at Rivanna for over 18 years, so they were pleased to have an internal promotion to Assistant Wastewater Manager.

Mr. Mawyer stated that they continue to work on the South Rivanna to Ragged Mountain Reservoir waterline easements. He stated that he understood that it is on City Council's agenda for August to grant easements for four properties near the Ragged Mountain Reservoir. He stated that this will help Rivanna, which is also working with all the other property owners.

Mr. Mawyer stated that as a Strategic Plan goal for operational optimization, he wanted to note that Rivanna bought a piece of laboratory equipment back in the spring. He stated that as of June, it was certified by the state's Virginia Department of Consolidated Lab Services to run wastewater samples on the new machine. He stated that this is saving Rivanna about 16 employee hours every month, rather than having to do the samples the manual way. He stated that this was a good choice, and they commend Dr. Bill Morris (Lab Manager) for bringing this suggestion forward to purchase the equipment.

Mr. Mawyer stated that they are working with several research groups from UVA who are investigating the presence of the COVID virus in the wastewater sludge. Rivanna is providing the researchers with access to their sludge product.

Mr. Mawyer stated that on the state front, the board members may have read that the Virginia Department of Labor and Industry just passed new emergency regulations to prevent the spread and to protect employees from COVID. He stated that these regulations went into effect on Monday July 27, 2020, and Rivanna is working with the new regulations to determine how this impacts them.

Mr. Mawyer stated that generally, the new regulations require many of the things that everyone has been doing to date such as Personal Protective Equipment (PPE) and distancing at work with employees. He stated that Rivanna is required to give notice to all employees if they have a positive employee in the workspace. He stated that it sets forth some return to work requirements on how they should clear employees who would be positive for the virus, and when they can return to work.

Mr. Mawyer stated that Rivanna is trying to absorb and digest the new regulations. He stated that they do not see many significant differences to what they are already doing.

Mr. Mawyer stated that it has been hot, and that Rivanna is monitoring the reservoirs. He stated that the good news is that all the reservoirs continue to overflow, except for Ragged Mountain.

Mr. Mawyer presented a statewide map that was put together by DEQ, noting that they are starting to see some yellow blocks throughout the eastern half of the state now. He stated that in the Central Piedmont area, the yellow block means there is a watch on the groundwater level. He stated that the other green blocks in their region indicate that they have normal precipitation, reservoir levels, and stream flows. He stated that the lone red block on the map is the Northern Coastal Plain area (King George County, Caroline, Westmoreland, King and Queen, and Gloucester).

Mr. Mawyer stated that Rivanna will continue to monitor this situation. He stated that they have had high urban water demand of up to 12 million gallons per day (mgd) in the urban area and that in Crozet, it has been exceedingly high, with an almost 1 mgd demand on a few days the prior week. He stated that they are monitoring this situation and as the board knows, Rivanna is expanding the Crozet Water Treatment Plant, which currently treats 1 mgd, which is the maximum. He stated that they will grow to 2 mgd when the treatment plant is finished in the next 6-10 months.

Mr. Mawyer stated that they are also working with DEQ on getting a permit so they can withdraw more water from Beaver Creek Reservoir.

Mr. Mawyer stated that as they transition from FY 20 into FY 21, he wanted to mention a couple of projects that they are finishing, and those they are starting.

Mr. Mawyer stated that they had a small project near Albemarle High School to demolish an existing wastewater concrete basin. He stated that this was an overflow basin, and that there is a pump station near that area that serves all the schools. He stated that when they would lose power in the distant past, the wastewater would overflow into the concrete basin. He stated that as seen in the photo he presented, the concrete basins have been removed, and they are filling them in to plant grass. He stated that they intend to help and allow the School Division to use that area. Mr. Mawyer stated that this was a small project, but one that had a safety and viewshed issue near Albemarle High School.

Mr. Mawyer stated that there is also a project where they are going to clean out the two large retention ponds that hold about 3 million gallons of overflow wastewater at Moores Creek. He stated that they will drain those two ponds and take out all the sludge that has been there to get rid of it, which is an odor control measure. He stated that this will go on from September through March of 2021.

Mr. Mawyer stated that there is a small project at the Scottsville facility to increase the disinfection equipment over the next half of the year.

Mr. Mawyer stated that earlier, they had talked about the Beaver Creek Dam and Pump Station project. He presented a map of the future pump station site, noting that there is a project to put in a new labyrinth spillway. He stated that it will be a concrete chute that goes through the middle of the dam. He stated that there will be a bridge that will be on Browns Gap Turnpike. He stated that the pump station shown in the picture he presented exists below the dam, and must be moved, as it will be in the way. He stated that they plan to move this to the future pump site on the west side of the reservoir, which is on County-owned property. He stated that they will have a meeting with County staff tomorrow about this, and that they have talked with Mr. Bob Crickenburger, County Parks Director.

Mr. Mawyer stated that some of the neighbors there that they will need easements from have not been happy that Rivanna plans to come across their property. He stated that in fact, staff will have a meeting with some of those neighbors that afternoon.

Mr. Mawyer stated that there is another big project to construct a 1-million-gallon concrete tank off of Routes 250 and 240 that supports Crozet. He stated that this tank will hold excess sewage. They will take it out of the pipes and put it in the tank when there is a rainstorm. He stated that when the flow in the pipe subsides, they put the wastewater back into the pipe on its way to Moores Creek, which helps to minimize any sewer overflows along that path between Crozet and Moores Creek.

Mr. Mawyer stated that this concluded his report, which gave an overview of what is coming up as well as some items that were on the consent agenda that day.

Mr. Gaffney asked Mr. Mawyer if he had any idea when the UVA researchers will come up with any report on what they are finding in the wastewater sampling.

Mr. Mawyer replied that he did not know the schedule. He stated that he understood that they were trying to get some base data before the students actually return en masse so they can then use to compare the data after the students are back.

Mr. Gaffney stated that they may not hear anything until September or October.

Mr. Mawyer stated that it would be at least the latter part of August.

Mr. Richardson stated that regarding the Moores Creek sludge treatment work that will be done between September and March, he understood Mr. Mawyer to say that this work is an effort with continued focus on odor control.

Mr. Mawyer stated yes.

Mr. Richardson asked if while that work is underway between September through March, the fact that the work is in progress in order to treat this will create more of an odor control problem during that timeframe.

Mr. Mawyer replied that it could because they keep the sludge covered with water now to keep the odors underneath the water. He stated that they will have to pump the water out to remove the sludge. He stated that this has been done in the past, to a small degree, but that they usually notify all the neighbors that this will be done and provide them with a contact if there is an odor issue. He stated that he is hopeful that it will not be a significant problem, but there is the potential for that.

Mr. Richardson stated that Mr. Mawyer answered his second question regarding neighbor outreach for these programs.

6. ITEMS FROM THE PUBLIC
Mr. Gaffney opened the meeting to the public.

Hearing no comments, Mr. Gaffney closed Items from the Public.

7. RESPONSES TO PUBLIC COMMENT
As there were no public comments, there were no responses.

8. CONSENT AGENDA
- *a. Staff Report on Finance*

- *b. Staff Report on Operations*

- *c. Staff Report on Ongoing Projects*

d. Staff Report on Wholesale Metering

e. Sewer Use Regulations Update

f. Construction Contract Award – MC Slide Gate Improvements Project – Waco, Inc.

g. Capital Improvement Plan Amendment– Scottsville Water Treatment Plant LT2 Improvements

h. Construction Contract Award and Capital Improvement Plan Amendment– Crozet Flow Equalization Tank – Anderson, Inc.

Dr. Palmer moved that the board approve the Consent Agenda. The motion was seconded by Mr. O'Connell and passed unanimously (6-0). (Mr. Snook was absent.)

9. OTHER BUSINESS

a. Presentation: Bond Rating & Reserves Review; Lonnie Wood, Director of Finance and Administration

Mr. Lonnie Wood stated that in May, there had been some questions during the presentation of the budget about reserve levels and bond ratings. He stated that this will be a quick presentation on some of those questions that were asked.

Mr. Wood stated that the bond rating agencies generally have a credit rating between AAA down to D. He stated that he would show the board a chart of what those mean. He stated that those are more of a snapshot in time bond rating based on what one's current financials are and the previous 5-6 years of financials. He stated that the agencies sometimes provide an outlook with the rating, by industry, on what the future prospect looks like.

Mr. Wood stated that Rivanna received a bond rating review back in April from Moody's, and that they typically do this once every year or two. He stated that Standard & Poor normally does this when there is a publicly traded bond issue. He stated that Moody's gave Rivanna a rating, and that Rivanna retained its Aa2 rating. He stated that they had no future outlook for Rivanna, which is typical. He stated that this is called a surveillance rating.

Mr. Wood stated that to highlight some of Moody's comments, they say that Rivanna's credit is a high quality at its Aa2 rating, which is above the median for water and wastewater systems nationwide. He stated that part of that strong rating is because Rivanna has ample liquidity, but they also have a higher than average debt load profile and a narrow debt service coverage. He stated that he would explain what those mean momentarily.

He stated that Rivanna has 765 Days Cash on Hand, which is excellent, but they also have 5.5x their operating revenue in debt load, which is very heavy compared to the median.

Mr. Wood presented a slide showing Rivanna's metrics compared to the U.S. median. He stated that the debt service coverage is basically a factor of two numbers on the slide. He stated that they take the net revenue and divide it by the amount of their annual debt service to get their debt service factor. He stated that what this means is that for every $1 in debt payment they have, they have $1.39 in net revenue to pay for it. He stated that the median for the U.S. is 2.3x, which means Rivanna is a little low there.

Mr. Wood stated that Moody's is saying Rivanna's trend is stable because there is little change over the last 4 out of 5 years. He stated that Days Cash on Hand is 765 and that the U.S. median is about 440. He stated that for being weak in one area, they are strong in this area.

Mr. Wood stated that they were a little heavy on their debt-to-operating revenue versus the U.S. average. Mr. Wood indicated that Moody's uses other environmental factors for rating such as median family income and remaining useful life.

Mr. Wood indicated on the slide to a separate score Moody's gives on certain parts of the review. He stated that rate management and budgeting is Aa, which is a good, strong rating. He stated that regulatory compliance and capital planning was given an A, and that he was not sure why. He stated that this is usually because there is a big debt load.

Mr. Wood stated that Bba is a fairly low rating for the rate covenant. He stated that Rivanna's rate covenant was created back in 1979, and the biggest thing in the rate covenant says that they have a minimum of 1.0, which is a dollar-for-dollar ratio. He stated that for every dollar of debt service they have, they have to have a dollar of net revenue to pay for it.

Mr. Wood presented a slide that graphed the same numbers from the other page.

Mr. Wood presented a chart on what the ratings mean. He stated that Rivanna is Aa2 with Moody's, and an AA+ with S&P, which means they are a high-grade, investment-grade bond rating. He stated that when they were at a Bba, the rate covenants were down in the non-investment grade category. He stated that their minimum per the rate covenant is not a good metric to go by.

Mr. Wood stated that every year, Davenport puts together the same numbers and some comparisons on how Rivanna compare against some select utilities in Virginia. He stated that presented the numbers for liquidity and Days Cash on Hand, at the 700+ mark. He indicated on the slide to how this is computed, and how Rivanna compares to some of the localities in the state and to the national average AAAs and AAs.

Mr. Wood presented the debt balance over the last 10 years, which has gone from $57 million to $200 million, which is basically a 350% increase. He stated that they have had some major projects such as the Ragged Mountain Dam, GAC, Rivanna Pump Station, and the beginning of the upgrades to South Rivanna and Observatory.

Mr. Wood presented Rivanna's debt service ratio and policy target. He stated that they had their financial policies approved several years ago, and have a policy target of 1.5x. He stated that they have been hitting that over the last ten years, except for the last couple years. He stated that this is the 1:1 ratio he spoke about in the rate covenant, and how their debt service coverage stacks up. He stated that they are low on the debt service ratio comparisons, and were high on the liquidity and Days Cash on Hand. He stated that these balance each other out to bring Rivanna up to the Aa2 rating.

Mr. Wood presented more comparisons. He indicated to an area on the slide, explaining it was how Moody's compares the 1.50x to 1.25-1.70x ratio, which is where they fall, which is an A rating. He stated that the Days Cash on Hand brings the A rating up, so there are some balancing factors. He stated that this is how S&P looks at those particular metrics.

Mr. Wood indicated on the slide to Rivanna's debt service coverage for 2021, based on their budget numbers. He stated that they were able to use reserves that year instead of having rate increases, which kept this down. He stated that before COVID and the budget adjustments happened, the debt service ratio was around 1.3. He presented the numbers of where the budget was for the last few years. He stated that in 2019, there was a budget target of 1.35. He stated that they were at 1.38 for 2019, which was close to hitting the budget target.

Mr. Wood stated that with regard to reserve balances, they track their reserves by all the major rate centers. He stated that back in January, there was a presentation done on the rate centers and why they were set up that way. He stated that it was mainly due to the four-party agreement. He stated that the two main ones the City and County are partners on are the two urban rate centers. He indicated on the slide to the reserve balance in each one.

Mr. Wood stated that urban water had a balance at the beginning of the year of $14 million and was now down to $13 million because there was a deficit they had to fund. He stated that they are also using quite a bit of money over the next five years to transfer to their capital fund.

Mr. Wood indicated on the slide the use of reserves for GAC. He stated that the $756,000 figure was new that year, and that they were using this to balance out the budget to reduce the need for rate revenue. He indicated to a blank space on the graph and stated that he highlighted this in yellow because they would probably do the same thing for 2022, but they do not know how much yet.

Mr. Wood stated that the same was true for wastewater, for which they were using $4.25 million for CIP. He stated that he updates this information every year after the year has ended, so these were not audited.

Mr. Wood stated that they were trending downward in urban water. He stated that if they have more deficits, they will likely back off some of the transfers. He stated that every year they adjust the 5-year reserve plan based on what actually happens in any given year.

Mr. Wood stated that the smaller rate centers don’t have nearly as much of a reserve because they are much smaller, but they do the same thing.

Mr. Wood stated that they use this in their capital planning as far as how much they can transfer to the capital fund to offset the need for new debt. He stated that if they have good years, they will plug resulting from the surpluses. He stated that if there are bad years, they will readjust reserves down. He indicated on the slide to where they are using reserves to balance out the need for rate center charges. He then indicated on the slide to where they are using reserves for GAC.

Mr. Wood stated that overall, Rivanna has maintained its Aa2 rating with Moody’s. He stated that Days Cash on Hand is 765, which is very strong. He stated that rate management and budget management are AA. He stated that the operating-to-debt ratio and the debt service coverages are not as strong as the medians, which balances out the Days Cash on Hand. He stated that to get this number up, they will have to start seeing rate increases again in order to maintain an aggressive CIP program. He stated that they have adequate (but declining) reserves, which offset the strong factors.

Dr. Palmer stated that this was helpful, and that she had a few questions about the covenant that she would ask later, after she reviews this information once more. She stated that she would either send Mr. Wood an email or ask him about it at the next meeting.

Mr. O’Connell thanked Mr. Wood for putting this together and stated that it was useful.

b. *Presentation: Bond Rate Reset Resolution – 2014a Bond And 2005a Bond; Lonnie Wood, Director of Finance and Administration*

Mr. Wood stated that with the interest rates being down so low, he and Davenport (Rivanna’s financial advisor) have taken a look at many of their bonds to see which ones could possibly qualify for a refunding or refinancing. He presented two particular bonds that are eligible and are part of the state’s revolving loan fund. He stated that Rivanna can do something called a rate reset or rate modification, which is a very efficient way to refinance their bonds.

Mr. Wood stated that last November, they issued new bonds to replace the old bonds, with a new interest rate. He stated this takes more closing costs and underwriters.

Mr. Wood stated that the bottom line is that they are going to refinance about $25 million in outstanding debt by doing a rate reset. He stated that the rates on the two bonds will decrease from 2.45-3.00% on the existing bonds down to 1.0-1.6% . He stated that the new rate will go into effect after October 1, and they will have roughly an annual savings of $120,000 a year until the year 2036, which is the original term of the bonds. He stated that over that term, it will save approximately $1.84 million in total net present value.

Mr. Wood stated that in order to move forward with this financing, they will have a closing sometime in mid-to-late August, and perhaps even early September. He stated that the board will need to approve the attached resolution authorizing certain amendments in connection with the cost of fund reductions, and the two attached allonges for the 2005A and 2014A bonds, evidencing the change in cost of funds.

Mr. O’Connell stated this was good work and incredible savings.

Dr. Palmer agreed. She asked if they could find any more savings.

Mr. Wood stated that they would wait until about January to take another look and see which ones may be beneficial. He stated that in November last year, they did this as well, in a different way. He stated that over the last 12 months, with this and with the November action, they are saving a total of about $240,000 to $250,000 per year.

Mr. O’Connell moved to approve the bond rate reset resolution and the allonges. The motion was seconded by Dr. Palmer. Mr. Gaffney asked Mr. Krueger to take a roll call vote:

Ms. Hildebrand: Aye
Dr. Richardson: Aye
Mr. Gaffney: Aye
Dr. Palmer: Aye
Mr. Richardson: Aye
Mr. O’Connell: Aye
Mr. Snook: Absent

c. Presentation: Annual Reservoir Report; Andrea Terry, Water Resources Manager

Ms. Andrea Terry stated that she would talk about the reservoir monitoring program and provide an update. She stated that there would be a summary of bathymetric surveys, and also talk about a new survey that was done in the past year. She stated that she would also talk about source water protection and the initiatives they are working on, as well as outreach activities and partner coordination.

Ms. Terry presented a schematic of the water supply reservoirs, with the three urban reservoirs across the top (Ragged Mountain, Sugar Hollow, and South Rivanna). She stated that those are the reservoir sources of supply for the urban area. She stated that they also have reservoirs at Totier Creek and Beaver Creek, which supply Scottsville and Crozet, respectively.

Ms. Terry presented a picture of Albemarle County, broken out by its drinking water watersheds. She stated that Sugar Hollow reservoir was located at the top, with the Beaver Creek Reservoir just below it. She stated that they can see the tiny Ragged Mountain watershed, which is so much smaller. She stated that all of those are part of a greater Rivanna River watershed. She stated that the Totier Creek Reservoir could be seen near Scottsville.

Ms. Terry presented numbers associated with these thoughts. She stated that the volumes she listed on the slide are usable storage volumes (not total storage). She stated that this is what is usable for water supply. She stated that at Ragged Mountain, there is 1.4 billion gallons. She stated that it has the smallest watershed, at a little less than 2 square miles. She stated that at South Rivanna, they have 884 million gallons, but this watershed is 259 square miles. She stated that this helps the board see the differences between the size of the watershed and the volumes that can be taken from them, as well as their surface areas.

Ms. Terry stated that in the past, a Reservoir Water Quality and Management StudyReport was done. She stated that this report came out in 2016 and was presented to the board. She stated that it came from work from mid-2014 up through 2016 on water quality. She stated that they identified water quality concerns in the reservoirs and evaluated potential management methods. She stated that DiNatale Water Consultants was the firm that did that.

Ms. Terry stated that they then decided they wanted to go back and investigate further with Beaver Creek and South Rivanna Reservoirs, as they were finding they were having more algal issues at those two reservoirs. She stated that they wanted to understand them better and have DiNatale Water Consultants refine what they recommended Rivanna to do to address the algae.

Ms. Terry stated that one of the things the consultants recommended Rivanna to do is put a hypolimnetic oxygenation system in Beaver Creek. She stated that this has been included as part of the upgrade plans for the Beaver Creek Dam Modification project and Pump Station Project.

Ms. Terry stated that Rivanna’s reservoir monitoring program includes the goal to collect data to understand the biological processes in the reservoirs and use that information to inform their water treatment decision making.

Ms. Terry stated that they began the detailed monitoring program in 2014. She stated that they basically do bi-weekly sampling (meaning every two weeks) at the urban reservoirs from April through November, then do monthly sampling at Sugar Hollow and Totier Creek Reservoirs during those same months. She stated that in the winter, they reduce sampling, and the urban reservoirs get sampled about once a month.

Ms. Terry stated that valuable information is collected, and it provides a better understanding of each reservoir and what is happening in each lake. She stated that they are very different reservoirs with different characteristics.

Ms. Terry stated that nutrients flow into reservoirs, and come from streams as well as from groundwater. She stated that the nutrients are the source of fuel for algae, so algae start to grow. She stated that in the spring, it probably has decent oxygen all the way through the water column. She stated that when algae growth continues and the algae then die, they sink and start to decompose. She stated that as they decompose, they suck up the oxygen and take it away from the system such that it can be an impact to the fisheries and the lake.

Ms. Terry stated that in the summertime, the top of the lake starts to heat up, and algae continues to be fed by the nutrients coming in from the streams and groundwater. She stated that the algae continue to grow, die off, sink, and take up the oxygen. She stated that fish can only survive in oxygenated waters. She stated that as the upper portion starts heating up, what is formed is what is called a thermocline, and the bottom part of the lake has little to no oxygen.

Ms. Terry stated that in the fall, the water cools and gets back into what they call an isothermic situation where it is the same temperature throughout. She stated that the nutrients from the bottom are mixed with the surface, and they often see an algae bloom in some of the reservoirs late in the season.

Ms. Terry stated that she would talk about the monitoring trends. She stated that they have been focusing more attention lately on Beaver Creek Reservoir and South Fork. She stated that with Beaver Creek Reservoir, the stratification where the the thermocline forms starts in early May, but they do not see a turnover until very late November and sometimes even into December. She stated that the reservoir does become anoxic at depths starting in June, which is early. She stated that phosphorus is loading from the sediments and in flowing streams.

Ms. Terry stated that South Fork Rivanna is what they refer to as a run-of-the-river reservoir. She stated that it has a 256-square-mile watershed, and when it rains, the flow coming through that reservoir is significant. She stated that retention time for nutrients in that reservoir tends to flush things out. She stated that typically, they do not see any issues with algae blooms there until they are getting close to the top of the crest of the dam, or below it.

Ms. Terry stated that Rivanna refers to Ragged Mountain Reservoir as their new reservoir. She stated that it starts stratification in May, with turnover in November. She stated that this year was the first year that they have observed a blue-green algae bloom, and they did treat it just a few weeks ago. She stated that this may be surprising to some, as this is thought of as a new reservoir that would not have this problem, but algae have been around for millions of years and will be there. She stated that there is sufficient phosphorus in that system already to cause algal issues.

Ms. Terry stated that they are monitoring Sugar Hollow and Totier Creek Reservoirs less, but that from the monthly data they see, they are not seeing any blue-green algae blooms.

Ms. Terry presented a table showing the number of algaecide applications. She stated that these applications are a contractor going out and placing a product, which has copper sulfate in it in the reservoir to control the algae. She stated that for Ragged Mountain, the two for 2014 and 2015 were green algae blooms and were not blue-green, but that they now have their first blue-green at Ragged Mountain. She stated that they have treated two at Beaver Creek, and none yet at South Fork Rivanna that year.

Ms. Terry stated that they talked about bathymetric surveys and that she would show the board the Lickinghole Creek stormwater basin. She indicated on the slide to the location of the basin, noting it is between Routes 240 and 250 and is a 13.7-square-mile watershed that goes up into Crozet. She stated that Lickinghole Creek flows down to the Mechums River. She stated that it is not in the watershed of Beaver Creek Reservoir, and that this watershed is divided along Route 240.

Ms. Terry stated that this was created to be a sediment pond to capture sediment and prevent it from getting down to South Fork. She stated that this was built in the early 1990s, and the original design volume was 32 million gallons. She stated that in 2019, a bathymetric survey was done, and it was shown to have a volume of 26.43 million gallons, which is a 5.6-million-gallon decrease in storage. She stated that storage has decreased by approximately 17%.

Ms. Terry stated that there is a Source Water Protection Advisory Committee. She stated that there was some funding that was offered through the Virginia Department of Health to help localities develop a source water protection plan for their reservoirs, rivers, or any of their sources. She stated that Rivanna wanted to benefit from and be a part of that program, and the first funding opportunity they had, they would fund only for those sources that served less than 10,000 customers. She stated that for Rivanna, this means Beaver Creek, the North Rivanna River, and Totier Creek.

Ms. Terry stated that this is why the advisory committee was formed. She stated that its members include Rivanna, Albemarle County Natural Resources staff, ACSA, Rivanna Conservation Alliance, and Thomas Jefferson Soil and Water Conservation District. She stated that this group met on January 31, 2020. She stated that one of the things that came out of the meeting was that everyone has a lot to share, and that a lot of the source water protection initiatives that apply to those three sources could also be applied to some of the bigger reservoirs. She stated that for that reason, they are inviting the City to participate in this as well.

Ms. Terry stated that the source water protection plans for Beaver Creek, Totier Creek, and North Fork are currently being updated with the help of a consultant that VDH has hired for Rivanna.

Ms. Terry stated that Rivanna has done some other things in the meantime. She stated that they coordinated with Albemarle County and the Soil and Water Conservation District to identify how cows were entering the Beaver Creek Reservoir. She stated that they collaborated, and it was interesting who knew who and how they could talk to people. She stated that they solved the problem there, and cows are no longer getting into the Beaver Creek Reservoir.

Ms. Terry stated that they are developing mailings to residents of three source water watersheds with educational information. She stated that Rivanna also received a $19,200 grant from VDH to put up some source water protection signs or watersheds signs in those three watersheds of the smaller sources. She stated that the signs will say something along the lines of the person being in a drinking water watershed and not to pollute.

Ms. Terry stated that they have also participated in riparian zone plantings and stream cleanups with the Rivanna Conservation Alliance.

Ms. Terry summarized that the takeaway from her presentation was that Rivanna has a robust reservoir monitoring program that informs their water treatment decision making. She stated that it has been beneficial, and that staff share information between treatment and reservoirs. She stated that this helps them to be efficient in their treatment. She stated that new this year was a blue-green algae bloom at Ragged Mountain. She stated that storage volume at the Lickinghole Creek stormwater basin has decreased by about 17%. She stated that they are actively working on their source water protection program in collaboration with partners.

Dr. Palmer asked where the phosphorus in the Ragged Mountain system was coming from.

Ms. Terry replied that when the detailed sediment studies were done, they were done on South Rivanna and Beaver Creek She stated that they have not done sediment studies at Ragged

Mountain. She stated that she hypothesizes that there are nutrients in the sediment, as it is going anoxic at some point, is very deep, and has such a small watershed that is mostly forested. She stated that her perspective is that it is probably more of what is already in the system. She said there can be a breakdown of phosphorus and nitrogen coming off the watershed, but she thinks that it has to be in the sediments.

Dr. Palmer stated that perhaps as it was constructed, it came from the rocks. She stated that there wasn't a lot of sediment, as it was so new.

Ms. Terry stated that there are plants growing there that break down around the edges and provide sources. She stated that it may be worth looking at sediment sometime in the future, but that this is where she thinks it is probably already there.

Dr. Palmer asked Ms. Terry to remind her who pays for any maintenance on Lickinghole. She stated that she knows they have talked about this many times before, and wanted to know how this is done.

Ms. Terry replied that Rivanna owns that facility and maintains it. She stated that she knows there is an agreement and asked if anyone else could speak to that.

Dr. Palmer stated that she could find out later if it was difficult.

Mr. Mawyer stated that he thinks Rivanna pays for it, but that he would double-check and let Dr. Palmer know.[1]

Dr. Palmer stated that she thought they had worked out something where the County was paying for it directly and not having it go through the water prices if they had to dredge it.

Dr. Palmer asked Ms. Terry if she could send her the presentation separately from the Dropbox, as she would like to share it with the other Supervisors.

Ms. Terry stated that she would do so.

Mr. Gaffney asked at what point Lickinghole Creek needs to be dredged, what volume needs to be maintained, and who oversees this from the state standpoint.

Mr. Mawyer replied that Rivanna will manage this with DEQ and the Department of Conservation and Recreation. He stated that he thinks everyone thought that Lickinghole was

[1] It was verified that maintenance costs for the Lickinhole Basin are funded by Urban Water rates.

virtually full of sediment, but that the bathymetric study says it is not -- that it is only 17% sedimented. He stated that they have a ways to go, and that he would follow up with Mr. Gaffney on what they think at what level they would need to dredge it.

Mr. Gaffney stated that this was a good answer, as he had thought that 17% was a bad number but it now sounds like it is a good number.

Mr. Mawyer stated that there is 83% left and a ways to go, with over 18 years at 17%. He stated that they could say they have at least another 100 years, depending on the sedimentation rate. He stated that if it stays at the current rate, they have a ways to go.

Mr. O’Connell stated that given that at one point, there was the thought that there needed to be a capital project but that now, this is far off into the future.

Mr. Mawyer agreed.

Dr. Palmer stated that she couldn’t recall when they last did the bathymetric study, and asked if the idea was that it probably got cleaned out a bit with the 2018 flood.

Ms. Terry asked if Dr. Palmer was talking about South Fork.

Dr. Palmer replied no. She stated that she was talking about Lickinghole and the fact it has only gone down 17%.

Ms. Terry replied that it may have, but they do not have any way to prove that.

Ms. Jennifer Whitaker stated that they have not done a bathymetric, except for the original construction documents, but that it does have a unique system in that about 10% of its volume is dedicated to constructed wetlands, as shown in the photograph Ms. Terry presented. She stated that those areas cannot be dredged or removed. She stated that the 17% is of the usable storage volume. She stated that in the 15-year plan, there is a dredging project, but as Mr. O’Connell pointed out, it moved the last year out further into the future.

d. Presentation: Approval of the Observatory WTP Lease, Alderman PS License, and Piping Easement, all with UVA; Bill Mawyer, Executive Director

Mr. Mawyer stated that it was a pleasure to bring the presentation to the board asking for approval of the Observatory Water Treatment Plant lease, the Alderman Road finished water pumping station license, and a piping easement for a variety of raw finished storm and wastewater pipes that are all the general vicinity of the Observatory Treatment Plant.

Mr. Mawyer pointed on the map to Scott Stadium to better orient the board. He stated that the treatment plant is located on Observatory Mountain. He stated that the purple lines on the map are raw waterlines coming from Ragged Mountain. He stated that as the inset on the map shows, there are two lines from Ragged Mountain that supply the Observatory Treatment Plant. He stated that one line passes through the Royal raw water pump station. He stated they have the Stadium Road pump station below Scott Stadium. He stated that both of those pump stations and waterlines supply water to the Observatory Treatment Plant, and that all four of these (two pump stations and two raw waterlines) are scheduled to be replaced over the next 5-10 years.

Mr. Mawyer stated that the lease includes the Observatory WTP, the Royal raw water pump station and the Stadium Road pump station.

Mr. Mawyer stated that UVA constructed the original Observatory water treatment facilities back in the 1850s. He stated that they granted the rights to operate the facilities and own the buildings to the City back in 1922, and granted a 99-year lease that will expire on April 17, 2021. He stated that the lease was amended a number of times along the way. He stated that the City granted the Observatory Water Treatment Plant lease to Rivanna when Rivanna was created in 1972-73. He stated that since that time, for nearly 50 years, Rivanna has managed the Observatory treatment facilities.

Mr. Mawyer stated that he began discussion of a new lease shortly after he got there in 2016, and there has been much discussion about the three documents. He stated that for three years, they have talked about the question of the plant needing to stay on Observatory Mountain, which they determined to be the plan, as they had no plan otherwise.

Mr. Mawyer stated that they talked at length about the term of the lease. He stated that Rivanna wanted 100 years, while UVA wanted 49 years. He stated that they talked about how much the lease would cost, the exact location of the lease boundaries, who will approve the architectural buildings that could be built there, how to get offsite utilities to the site, and the requirement for Rivanna to protect the vegetated buffer from the dormitories and surrounding facilities.

Mr. Mawyer stated that ultimately, they separated the lease into two other documents: a license for Alderman, and an easement for the water, wastewater, and stormwater lines. He stated that lastly, they separated the easement for Rivanna and the City between the Stadium Road pump station and the Observatory plant. He stated that this was in the original 1922 lease and in their wisdom, they separated those easements between the two parties.

Mr. Mawyer stated that they developed a master plan for the Observatory site when they started the process in order to show UVA what facilities would be at the plant site when Rivanna expands from 10 mgd to 20 mgd by around 2070. He stated that they had to convince UVA that they needed a paved access road throughout the site, which would require a retaining wall on the south side. He stated that those improvements are now in the contract with English Construction and will be built by 2023.

Mr. Mawyer stated that they had to talk about reserving sewer capacity in the piping that leaves the site and conveys sewer through other UVA properties. He stated that UVA encouraged Rivanna to make the site they are leasing as small as possible, so Rivanna got rid of a location for a stormwater facility, but then had to write in the lease that UVA would agree to partner with Rivanna if a new stormwater facility is required.

Mr. Mawyer stated that this was a glimpse into the many things that were discussed over the last several years.

Mr. O’Connell asked if the footprint of the lease would allow all the expansion to occur in the future without any further lease agreements.

Mr. Mawyer stated that this was correct. He stated that UVA wanted Rivanna to be as small as they could be, and Rivanna presented their master plan.

Mr. Mawyer stated that the ground lease includes three properties: Observatory Treatment Plant, Royal pump station, and Stadium Road pump station, totaling about 6.8 acres. He stated that the term is for 49 years, from July 1 of 2020 through June 30 of 2069. He stated that it has a provision that allows renewal for an additional 50 years, until the year 2119, unless either party gives notice that they do not want to renew. He stated that if UVA were to give Rivanna notice that they do not want to renew, they would have 10 additional years (until 2079) to site and build a new water treatment plant if they felt they needed one (which he thinks they would) and to demolish the existing plant.

Mr. Mawyer stated that the lease cost is $100,000 for the first year. He stated that Mr. Richardson came up with a concept to help them out -- that they should have a tiered roll-in of the cost. He stated that $100,000 is the cost, and that it is currently about $33,000 per year. He stated that it is $100,000 the first year, and then escalates to $175,000 on July 1, 2021 and thereafter. He stated that there is an annual increase based on the Consumer Price Index that will be measured every year, but administratively, they will only adjust it every tenth year.

Mr. Mawyer stated that the license is only for the space in the Alderman Road finished water pump station, so UVA continues to own the building and the property, but they granted a license for Rivanna to have space in the building. He stated that it follows the same term as the Observatory Water Treatment Plant, with the only addition that if they would discontinue use of that space for one year, they would lose their rights to it. He stated that there is no additional cost to use that facility.

Mr. Mawyer stated that the third document is an easement for the underground raw, finished, waste, and stormwater pipes in the area. He stated that those are perpetual easements, but if Rivanna were to discontinue use of those infrastructure facilities for one year, they would lose their rights. He stated that there are no additional costs for the easements.

Mr. O’Connell expressed his appreciation to everyone involved, particularly Mr. Mawyer, Mr. Gaffney, and Mr. Krueger.

Mr. Mawyer stated that he wanted to thank Ms. Whitaker for her help, as she is the historian and has records going back a century. He stated that Mr. Wood did a lot to help them with the finance portion, and Mr. Krueger has been instrumental and key. He stated that Mr. Gaffney jumped in when they needed a heavy hitter to help. He stated that they worked with Mr. Don Sundgren (Chief Facilities Officer) and Mr. Charlie Hurt (Assistant Vice President for Real Estate and Leasing), as well as a number of others from the UVA Architect Office and Ms. Colette Sheehy (Senior Vice President of Operations).

Mr. Mawyer thanked his team for their help over many meetings and for the many drafts that were written.

Mr. Mawyer stated that he would recommend authorization from the board for the Chair and Executive Director to execute the documents with UVA. He stated that the documents are currently in UVA’s hands, and that Mr. Krueger even had a final discussion with their attorney that afternoon about one word in the lease, license, and easement. He stated that hopefully, they have that resolved, and UVA will sign and send the documents to Rivanna, which will then sign.

Mr. O’Connell moved to approve the documents and authorize the Chair and Executive Director to execute the documents. The motion was seconded by Ms. Hildebrand and passed unanimously (6-0). (Mr. Snook was absent).

Ms. Hildebrand thanked Mr. Mawyer for assisting the City and separating out the easement deed, which was extremely helpful.

Mr. Mawyer credited Mr. Krueger for the idea.

Mr. Krueger credited Ms. Whitaker for aptly pointing out that there were two pipes in the same easement, and Rivanna only operated one of them while the City operated the other.

Mr. Mawyer stated that it was a team effort, with many things that had to be discussed.

10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

There were none.

11. CLOSED MEETING

There was no closed meeting.

12. ADJOURNMENT

At 3:28 p.m., Mr. Richardson moved to adjourn the meeting of the Rivanna Water and Sewer Authority. The motion was seconded by Dr. Palmer and passed unanimously (6-0). (Mr. Snook was absent.)

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MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: EXECUTIVE DIRECTOR'S REPORT

DATE: AUGUST 25, 2020

STRATEGIC PLAN GOAL: WORKFORCE DEVELOPMENT

Recognitions

We would like to congratulate Matthew Mitchell, who passed his Class 2 water operator's license exam. He is the latest example of an unlicensed water operator trainee that passed a certification exam.

STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING

S. Rivanna to Ragged Mtn Reservoir Water Line Easements

Progress continues in our efforts to acquire the necessary easements. Offers have been made to 11 of 13 private property owners, and through negotiations, agreements have been reached with 8 property owners. City Council is scheduled to consider easements on four properties located near Ragged Mtn in August and September. Progress is also being made on easements from public property owners (VDOT, County School Board) and the UVA Foundation. Negotiations with two private owners, UVA, the UVA Foundation and the Virginia Department of Forestry are also ongoing for water line easements between Ragged Mtn Reservoir and the Observatory Water Treatment Plant.

Reservoir Dam Inspections

After the recent 5.1 richter scale earthquake in North Carolina, our Dam Safety Engineers, Jennifer Whitaker and Victoria Fort, spent a full day inspecting all of our high hazard dams. The inspection indicated our dams were not impacted by the earthquake.

STRATEGIC PLAN GOAL: OPERATIONAL OPTIMIZATION

Biosolids Recycling

Dave Tungate, Director of Operations was interviewed by the Virginia Biosolids Council. The article focuses on how biosolids are handled at the Moores Creek facility and RWSA's partnership with McGill Environmental. To ready the article, please visit: http://www.virginiabiosolids.com/interview-dave-tungate-rivanna-water-sewer-authority/

STRATEGIC PLAN GOAL: OPERATIONAL OPTIMIZATION

Virginia Risk Sharing Association Grant

Liz Coleman, Safety Manager, applied for a grant through the Virginia Risk Sharing Association (VRSA) and was awarded $4000. This grant will be used for additional fall protection equipment, as well as adjustable ladders that can be used on uneven ground.

RIVANNA WATER & SEWER AUTHORITY
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MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: JULY MONTHLY FINANCIAL SUMMARY – FY 2021

DATE: AUGUST 25, 2020

Urban Water flow and rate revenues are 18% over budget estimates for July, and Urban Wastewater flow and rate revenues are 1% under budget. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				
Revenues	$ 846,142	$ 711,322	$ 191,178	$ 1,748,642
Expenses	(542,384)	(657,754)	(180,394)	(1,380,532)
Surplus (deficit)	$ 303,758	$ 53,568	$ 10,784	$ 368,110
Debt Service				
Revenues	$ 578,003	$ 811,818	$ 138,854	$ 1,528,675
Expenses	(579,341)	(713,316)	(139,171)	(1,431,828)
Surplus (deficit)	$ (1,338)	$ 98,502	$ (317)	$ 96,847
Total				
Revenues	$ 1,424,145	$ 1,523,140	$ 330,032	$ 3,277,317
Expenses	(1,121,725)	(1,371,070)	(319,565)	(2,812,360)
Surplus (deficit)	$ 302,420	$ 152,070	$ 10,467	$ 464,957

When reviewing the Authority as a whole, operating revenues are $186,000 over budget and operating expenses are $141,300 under budget.

A. Annual Transactions

Some revenues and expenses are over the prorated year-to-date budget due to one-time annual payments made or revenues received for the year. These transactions appear to be significant impacts on the budget vs. actual monthly comparisons but will even out as the year progresses. Annual payments are made for health savings accounts, certain maintenance agreements, and insurance. Septage receiving support revenue of $109,441 is received annually from the County.

Attachments

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020
Fiscal Year 2021

Consolidated Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 17,381,293	$ 1,448,441	$ 1,549,054	$ 100,613	6.95%
Lease Revenue		105,000	8,750	12,426	3,676	42.01%
Admin., Maint. & Engineering Revenue		545,000	45,417	52,749	7,332	16.14%
Other Revenues		542,788	45,232	166,065	120,833	267.14%
Use of Reserves-GAC		535,220	44,602	-	(44,602)	-100.00%
Rate Stabilization Reserves		240,027	20,002	20,002	-	0.00%
Interest Allocation		35,100	2,925	1,094	(1,831)	-62.59%
Total Operating Revenues		**$ 19,384,428**	**$ 1,615,369**	**$ 1,801,390**	**$ 186,021**	**11.52%**
Expenses						
Personnel Cost		$ 8,913,257	$ 701,997	$ 746,013	$ (44,016)	-6.27%
Professional Services		602,700	50,225	18,794	31,431	62.58%
Other Services & Charges		3,136,780	261,398	226,529	34,869	13.34%
Communications		161,020	13,418	20,612	(7,193)	-53.61%
Information Technology		392,950	32,746	47,516	(14,770)	-45.11%
Supplies		47,045	3,920	1,956	1,965	50.11%
Operations & Maintenance		4,918,416	409,868	273,987	135,881	33.15%
Equipment Purchases		352,250	29,354	26,207	3,147	10.72%
Depreciation		860,000	71,667	71,667	(0)	0.00%
Reserve Transfers		-	-	-	-	
Total Operating Expenses		**$ 19,384,418**	**$ 1,574,594**	**$ 1,433,280**	**$ 141,314**	**8.97%**
Operating Surplus/(Deficit)		**$ 10**	**$ 40,775**	**$ 368,110**		

Debt Service Budget vs. Actual

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 15,861,016	$ 1,321,751	$ 1,321,752	$ 1	0.00%
Use of Reserves	954,652	79,554	79,554	-	
Septage Receiving Support - County	109,440	9,120	109,441	100,321	1100.01%
Buck Mountain Lease Revenue	1,600	133	-	(133)	-100.00%
Trust Fund Interest	135,900	11,325	7,984	(3,341)	-29.50%
Reserve Fund Interest	666,000	55,500	9,944	(45,556)	-82.08%
Total Debt Service Revenues	**$ 17,728,608**	**$ 1,477,384**	**$ 1,528,676**	**$ 51,292**	**3.47%**
Debt Service Costs					
Total Principal & Interest	$ 14,380,219	$ 1,198,352	$ 1,198,352	$ -	0.00%
Reserve Additions-Interest	666,000	55,500	9,944	45,556	82.08%
Debt Service Ratio Charge	725,000	60,417	60,417	-	0.00%
Reserve Additions-CIP Growth	1,957,394	163,116	163,116	-	0.00%
Total Debt Service Costs	**$ 17,728,613**	**$ 1,477,384**	**$ 1,431,828**	**$ 45,556**	**3.08%**
Debt Service Surplus/(Deficit)	**$ (5)**	**$ (0)**	**$ 96,847**		

Summary

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 37,113,036	$ 3,092,753	$ 3,330,066	$ 237,313	7.67%
Total Expenses	37,113,031	3,051,978	2,865,109	186,870	6.12%
Surplus/(Deficit)	**$ 5**	**$ 40,775**	**$ 464,957**		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Urban Water Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 7,118,541	$ 593,212	$ 700,428	$ 107,216	18.07%
Lease Revenue		75,000	6,250	9,192	2,942	47.07%
Miscellaneous		-	-	128,213	128,213	
Use of Reserves-GAC		500,000	41,667	-	(41,667)	-100.00%
Rate Stabilization Reserves		94,254	7,855	7,855	-	0.00%
Interest Allocation		14,600	1,217	455	(762)	-62.59%
Total Operating Revenues		**$ 7,802,395**	**$ 650,200**	**$ 846,142**	**$ 195,943**	**30.14%**
Expenses						
Personnel Cost		$ 1,918,361	$ 151,791	$ 156,012	$ (4,221)	-2.78%
Professional Services		134,000	11,167	7,038	4,128	36.97%
Other Services & Charges		738,130	61,511	57,413	4,098	6.66%
Communications		76,000	6,333	10,514	(4,180)	-66.00%
Information Technology		85,500	7,125	640	6,485	91.01%
Supplies		5,745	479	322	157	32.69%
Operations & Maintenance		2,159,300	179,942	88,430	91,512	50.86%
Equipment Purchases		28,000	2,333	2,068	265	11.37%
Depreciation		300,000	25,000	25,000	-	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		$ 5,445,036	$ 445,681	$ 347,437	$ 98,244	22.04%
Allocation of Support Departments		2,357,359	186,470	194,947	(8,477)	-4.55%
Total Operating Expenses		**$ 7,802,395**	**$ 632,151**	**$ 542,384**	**$ 89,767**	**14.20%**
Operating Surplus/(Deficit)		**$ 0**	**$ 18,049**	**$ 303,758**		

Debt Service Budget vs. Actual

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 6,178,645	$ 514,887	$ 514,883	$ (4)	0.00%
Trust Fund Interest	49,000	4,083	2,882	(1,201)	-29.41%
Reserve Fund Interest	339,600	28,300	5,071	(23,229)	-82.08%
Use of Reserves	662,000	55,167	55,167	-	0.00%
Lease Revenue	1,600	133	-	(133)	-100.00%
Total Debt Service Revenues	**$ 7,230,845**	**$ 602,570**	**$ 578,003**	**$ (24,567)**	**-4.08%**
Debt Service Costs					
Total Principal & Interest	$ 5,215,445	$ 434,620	$ 434,620	$ -	0.00%
Reserve Additions-Interest	339,600	28,300	5,071	23,229	82.08%
Debt Service Ratio Charge	400,000	33,333	33,333	-	0.00%
Reserve Additions-CIP Growth	1,275,800	106,317	106,317	-	0.00%
Total Debt Service Costs	**$ 7,230,845**	**$ 602,570**	**$ 579,342**	**$ 23,229**	**3.85%**
Debt Service Surplus/(Deficit)	**$ -**	**$ -**	**$ (1,338)**		

Rate Center Summary

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 15,033,240	$ 1,252,770	$ 1,424,146	$ 171,376	13.68%
Total Expenses	15,033,240	1,234,721	1,121,726	112,995	9.15%
Surplus/(Deficit)	**$ 0**	**$ 18,049**	**$ 302,420**		
Costs per 1000 Gallons	$ 2.30		$ 1.62		
Operating and DS	$ 4.42		$ 3.36		
Thousand Gallons Treated	3,397,700	283,142	334,333	51,191	18.08%
or					
Flow (MGD)	9.309		10.785		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Crozet Water Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 1,028,808	$ 85,734	$ 85,734	$ -	0.00%
Lease Revenues		30,000	2,500	3,234	734	29.37%
Use of Reserves-GAC		26,000	2,167	-	(2,167)	-100.00%
Interest Allocation		2,100	175	65	(110)	-63.11%
Total Operating Revenues		**$ 1,086,908**	**$ 90,576**	**$ 89,033**	**$ (1,543)**	**-1.70%**
Expenses						
Personnel Cost		$ 302,598	$ 23,938	$ 24,839	$ (901)	-3.76%
Professional Services		15,000	1,250	5,658	(4,408)	-352.63%
Other Services & Charges		142,360	11,863	3,540	8,323	70.16%
Communications		5,600	467	1,984	(1,517)	-325.08%
Information Technology		2,250	188	80	107	57.32%
Supplies		1,350	113	59	53	47.49%
Operations & Maintenance		353,292	29,441	22,596	6,845	23.25%
Equipment Purchases		3,000	250	250	-	0.00%
Depreciation		40,000	3,333	3,333	0	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		$ 865,450	$ 70,842	$ 62,338	$ 8,504	12.00%
Allocation of Support Departments		221,456	17,524	18,385	(861)	-4.91%
Total Operating Expenses		**$ 1,086,906**	**$ 88,366**	**$ 80,723**	**$ 7,643**	**8.65%**
Operating Surplus/(Deficit)		**$ 2**	**$ 2,209**	**$ 8,310**		

Debt Service Budget vs. Actual

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 1,311,312	$ 109,276	$ 109,276	$ -	0.00%
Trust Fund Interest	11,600	967	679	(288)	-29.79%
Use of Reserves	198,252	16,521	16,521	-	0.00%
Reserve Fund Interest	15,700	1,308	239	(1,070)	-81.76%
Total Debt Service Revenues	**$ 1,536,864**	**$ 128,072**	**$ 126,714**	**$ (1,358)**	**-1.06%**
Debt Service Costs					
Total Principal & Interest	$ 1,217,569	$ 101,464	$ 101,464	$ -	0.00%
Reserve Additions-Interest	15,700	1,308	239	1,070	81.76%
Reserve Additions-CIP Growth	303,600	25,300	25,300	-	0.00%
Total Debt Service Costs	**$ 1,536,869**	**$ 128,072**	**$ 127,003**	**$ 1,070**	**0.84%**
Debt Service Surplus/(Deficit)	**$ (5)**	**$ (0)**	**$ (288)**		

Rate Center Summary

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 2,623,772	$ 218,648	$ 215,747	$ (2,901)	-1.33%
Total Expenses	2,623,775	216,439	207,726	8,713	4.03%
Surplus/(Deficit)	**$ (3)**	**$ 2,209**	**$ 8,021**		
Costs per 1000 Gallons	$ 5.47		$ 3.42		
Operating and DS	$ 13.20		$ 8.81		
Thousand Gallons Treated	198,830	16,569	23,580	7,011	42.31%
Flow (MGD)	0.545		0.761		

Rivanna Water & Sewer Authority
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Scottsville Water Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 520,812	$ 43,401	$ 43,401	$ -	0.00%
Use of Reserves-GAC		9,220	768	-	$ (768)	-100.00%
Interest Allocation		1,000	83	32	(52)	-61.92%
Total Operating Revenues		**$ 531,032**	**$ 44,253**	**$ 43,433**	**$ (820)**	**-1.85%**
Expenses						
Personnel Cost		$ 184,031	$ 14,550	$ 15,172	$ (622)	-4.27%
Professional Services		71,000	5,917	525	5,391	91.12%
Other Services & Charges		22,780	1,898	1,125	773	40.72%
Communications		4,600	383	475	(91)	-23.87%
Information Technology		650	54	160	(106)	-195.46%
Supplies		200	17	-	17	100.00%
Operations & Maintenance		87,662	7,305	4,167	3,138	42.96%
Equipment Purchases		2,500	208	208	(0)	0.00%
Depreciation		20,000	1,667	1,667	(0)	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		$ 393,423	$ 32,000	$ 23,500	$ 8,500	26.56%
Allocation of Support Departments		137,604	10,904	11,436	(532)	-4.88%
Total Operating Expenses		**$ 531,027**	**$ 42,904**	**$ 34,936**	**$ 7,968**	**18.57%**
Operating Surplus/(Deficit)		**$ 5**	**$ 1,349**	**$ 8,497**		

Debt Service Budget vs. Actual

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 128,749	$ 10,729	$ 10,729	$ (0)	0.00%
Trust Fund Interest	1,200	100	72	(28)	-28.14%
Reserve Fund Interest	8,300	692	119	(572)	-82.75%
Total Debt Service Revenues	**$ 138,249**	**$ 11,521**	**$ 10,920**	**$ (601)**	**-5.21%**
Debt Service Costs					
Total Principal & Interest	$ 126,032	$ 10,503	$ 10,503	$ -	0.00%
Reserve Additions-Interest	8,300	692	119	572	
Reserve Additions-CIP Growth	3,917	326	326	-	
Total Debt Service Costs	**$ 138,249**	**$ 11,521**	**$ 10,948**	**$ 572**	**4.97%**
Debt Service Surplus/(Deficit)	**$ -**	**$ -**	**$ (28)**		

Rate Center Summary

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 669,281	$ 55,773	$ 54,353	$ (1,420)	-2.55%
Total Expenses	669,276	54,425	45,884	8,540	15.69%
Surplus/(Deficit)	**$ 5**	**$ 1,349**	**$ 8,468**		
Costs per 1000 Gallons	$ 30.79		$ 18.97		
Operating and DS	$ 38.81		$ 24.91		
Thousand Gallons Treated	17,245	1,437	1,842	405	28.18%
or					
Flow (MGD)	0.047		0.059		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Urban Wastewater Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 8,033,620	$ 669,468	$ 662,865	$ (6,603)	-0.99%
Stone Robinson WWTP		22,788	1,899	1,224	(675)	-35.55%
Septage Acceptance		475,000	39,583	36,041	(3,542)	-8.95%
Nutrient Credits		45,000	3,750	-	(3,750)	-100.00%
Rate Stabilization Reserve		121,233	10,103	10,103	-	0.00%
Miscellaneous Revenue		-	-	587	587	
Interest Allocation		16,100	1,342	502	(839)	-62.57%
Total Operating Revenues		**$ 8,713,741**	**$ 726,145**	**$ 711,322**	**$ (14,823)**	**-2.04%**
Expenses						
Personnel Cost		$ 1,299,876	$ 102,498	$ 105,556	$ (3,057)	-2.98%
Professional Services		143,400	11,950	867	11,083	92.74%
Other Services & Charges		2,020,300	168,358	149,452	18,907	11.23%
Communications		10,700	892	996	(104)	-11.69%
Information Technology		69,500	5,792	344	5,448	94.06%
Supplies		1,900	158	68	91	57.28%
Operations & Maintenance		1,767,000	147,250	117,584	29,666	20.15%
Equipment Purchases		125,250	10,438	9,722	715	6.85%
Depreciation		470,000	39,167	39,167	(0)	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		$ 5,907,926	$ 486,502	$ 423,754	$ 62,748	12.90%
Allocation of Support Departments		2,805,815	222,152	234,000	(11,849)	-5.33%
Total Operating Expenses		**$ 8,713,741**	**$ 708,654**	**$ 657,754**	**$ 50,900**	**7.18%**
Operating Surplus/(Deficit)		**$ (0)**	**$ 17,491**	**$ 53,568**		

Debt Service Budget vs. Actual

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 8,229,090	$ 685,758	$ 685,762	$ 5	0.00%
Septage Receiving Support - County	109,440	9,120	109,441	100,321	1100.01%
Trust Fund Interest	74,000	6,167	4,343	(1,823)	-29.57%
Use of Reserves	94,400	7,867	7,867	-	0.00%
Reserve Fund Interest	295,200	24,600	4,405	(20,195)	-82.09%
Total Debt Service Revenues	**$ 8,802,130**	**$ 733,511**	**$ 811,818**	**$ 78,307**	**10.68%**
Debt Service Costs					
Total Principal & Interest	$ 7,812,130	$ 651,011	$ 651,011	$ -	0.00%
Reserve Additions-Interest	295,200	24,600	4,405	20,195	82.09%
Debt Service Ratio Charge	325,000	27,083	27,083	-	0.00%
Reserve Additions-CIP Growth	369,800	30,817	30,817	-	0.00%
Total Debt Service Costs	**$ 8,802,130**	**$ 733,511**	**$ 713,316**	**$ 20,195**	**2.75%**
Debt Service Surplus/(Deficit)	**$ -**	**$ -**	**$ 98,502**		

Rate Center Summary

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 17,515,871	$ 1,459,656	$ 1,523,140	$ 63,484	4.35%
Total Expenses	17,515,871	1,442,165	1,371,070	71,094	4.93%
Surplus/(Deficit)	**$ (0)**	**$ 17,491**	**$ 152,070**		
Costs per 1000 Gallons	$ 2.57		$ 2.35		
Operating and DS	$ 5.17		$ 4.90		
Thousand Gallons Treated	3,390,400	282,533	279,808	(2,725)	-0.96%
or					
Flow (MGD)	9.289		9.026		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Glenmore Wastewater Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 370,524	$ 30,877	$ 30,877	$ -	0.00%
Rate Stabilization Reserve		24,540	2,045	2,045	-	0.00%
Interest Allocation		700	58	22	(36)	-62.49%
Total Operating Revenues		**$ 395,764**	**$ 32,980**	**$ 32,944**	**$ (36)**	**-0.11%**
Expenses						
Personnel Cost		$ 97,804	$ 7,722	$ 7,556	$ 165	2.14%
Professional Services		24,200	2,017	-	2,017	
Other Services & Charges		36,800	3,067	2,376	691	22.53%
Communications		3,200	267	304	(37)	-13.95%
Information Technology		4,050	338	15	323	95.64%
Supplies		-	-	-	-	
Operations & Maintenance	**A**	109,100	9,092	21,398	(12,306)	-135.36%
Equipment Purchases		3,700	308	308	0	0.00%
Depreciation		10,000	833	833	0	0.00%
Subtotal Before Allocations		$ 288,854	$ 23,643	$ 32,790	$ (9,148)	-38.69%
Allocation of Support Departments		106,907	8,485	8,760	(275)	-3.24%
Total Operating Expenses		**$ 395,761**	**$ 32,128**	**$ 41,550**	**$ (9,423)**	**-29.33%**
Operating Surplus/(Deficit)		**$ 3**	**$ 853**	**$ (8,607)**		

Debt Service Budget vs. Actual

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 3,778	$ 315	$ 315	$ 0	0.05%
Trust Fund Interest	-	-	-	-	
Reserve Fund Interest	3,000	250	50	(200)	-80.11%
Total Debt Service Revenues	**$ 6,778**	**$ 565**	**$ 365**	**$ 0**	**0.03%**
Debt Service Costs					
Total Principal & Interest	$ 1,579	$ 132	$ 132	$ -	0.00%
Reserve Additions-CIP Growth	2,199	183	183	-	0.00%
Reserve Additions-Interest	3,000	250	50	200	80.11%
Total Debt Service Costs	**$ 6,778**	**$ 565**	**$ 365**	**$ 200**	**35.46%**
Debt Service Surplus/(Deficit)	**$ -**	**$ -**	**$ 0**		

Rate Center Summary

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 402,542	$ 33,545	$ 33,309	$ (237)	-0.71%
Total Expenses	402,539	32,692	41,915	(9,223)	-28.21%
Surplus/(Deficit)	**$ 3**	**$ 853**	**$ (8,606)**		
Costs per 1000 Gallons	$ 9.51		$ 12.85		
Operating and DS	$ 9.67		$ 12.96		
Thousand Gallons Treated	41,629	3,469	3,233	(236)	**-6.81%**
or					
Flow (MGD)	0.114		0.104		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Scottsville Wastewater Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 308,988	$ 25,749	$ 25,749	$ -	0.00%
Interest Allocation		600	50	19	(31)	-62.78%
Total Operating Revenues		**$ 309,588**	**$ 25,799**	**$ 25,768**	**$ (31)**	**-0.12%**
Expenses						
Personnel Cost		$ 97,317	$ 7,681	$ 7,556	$ 125	1.63%
Professional Services		2,100	175	-	175	100.00%
Other Services & Charges		23,710	1,976	1,928	48	2.40%
Communications		3,720	310	283	27	8.62%
Information Technology		1,500	125	-	125	100.00%
Supplies		500	42	-	42	100.00%
Operations & Maintenance		57,812	4,818	3,322	1,496	31.06%
Equipment Purchases		3,700	308	308	0	0.00%
Depreciation		20,000	1,667	1,667	(0)	0.00%
Subtotal Before Allocations		$ 210,359	$ 17,101	$ 15,065	$ 2,037	11.91%
Allocation of Support Departments		99,228	7,873	8,119	(246)	-3.12%
Total Operating Expenses		**$ 309,587**	**$ 24,974**	**$ 23,183**	**$ 1,791**	**7.17%**
Operating Surplus/(Deficit)		**$ 1**	**$ 825**	**$ 2,584**		

Debt Service Budget vs. Actual

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 9,442	$ 787	$ 787	$ 0	0.02%
Trust Fund Interest	100	8	8	(0)	-4.12%
Reserve Fund Interest	4,200	350	60	(290)	-82.95%
Total Debt Service Revenues	**$ 13,742**	**$ 1,145**	**$ 855**	**$ (291)**	**-25.37%**
Debt Service Costs					
Total Principal & Interest	$ 7,464	$ 622	$ 622	$ -	0.00%
Reserve Additions-Interest	4,200	350	60	290	82.95%
Estimated New Principal & Interest	2,078	173	173	-	0.00%
Total Debt Service Costs	**$ 13,742**	**$ 1,145**	**$ 855**	**$ 290**	**25.35%**
Debt Service Surplus/(Deficit)	**$ -**	**$ -**	**$ (0)**		

Rate Center Summary

	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 323,330	$ 26,944	$ 26,622	$ (322)	-1.19%
Total Expenses	323,329	26,119	24,038	2,081	7.97%
Surplus/(Deficit)	**$ 1**	**$ 825**	**$ 2,584**		
Costs per 1000 Gallons	$ 13.39		$ 14.85		
Operating and DS	$ 13.98		$ 15.40		
Thousand Gallons Treated	23,126	1,927	1,561	(366)	**-19.00%**
or					
Flow (MGD)	0.063		0.050		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Administration

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Payment for Services SWA		$ 543,000	$ 45,250	$ 45,250	$ -	0.00%
Miscellaneous Revenue		2,000	167	230	63	38.03%
Total Operating Revenues		**$ 545,000**	**$ 45,417**	**$ 45,480**	**$ 63**	**0.14%**
Expenses						
Personnel Cost	A	$ 1,906,136	$ 149,534	$ 166,184	$ (16,650)	-11.13%
Professional Services		183,000	15,250	4,706	10,545	69.14%
Other Services & Charges		80,600	6,717	7,326	(609)	-9.07%
Communications		21,500	1,792	2,135	(343)	-19.15%
Information Technology	A	177,000	14,750	45,956	(31,206)	-211.57%
Supplies		24,250	2,021	1,237	784	38.78%
Operations & Maintenance		75,200	6,267	4,614	1,653	26.37%
Equipment Purchases		24,000	2,000	1,167	833	41.67%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 2,491,686**	**$ 198,330**	**$ 233,324**	**$ (34,994)**	**-17.64%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (1,946,686)**	**$ (152,913)**	**$ (187,844)**	**$ 34,931**	**-22.84%**
Allocations to the Rate Centers						
Urban Water	44.00%	**$ 856,542**	**$ 67,282**	**$ 82,652**	**$ (15,370)**	
Crozet Water	4.00%	**$ 77,867**	**6,117**	**7,514**	**(1,397)**	
Scottsville Water	2.00%	**$ 38,934**	**3,058**	**3,757**	**(699)**	
Urban Wastewater	48.00%	**$ 934,409**	**73,398**	**90,165**	**(16,767)**	
Glenmore Wastewater	1.00%	**$ 19,467**	**1,529**	**1,878**	**(349)**	
Scottsville Wastewater	1.00%	**$ 19,467**	**1,529**	**1,878**	**(349)**	
	100.00%	**$ 1,946,686**	**$ 152,913**	**$ 187,844**	**$ (34,931)**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Maintenance

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Payment for Services SWA		$ -	$ -	$ -	$ -	
Miscellaneous Revenue		-	-	-	-	
Total Operating Revenues		$ -	$ -	$ -	$ -	
Expenses						
Personnel Cost	A	$ 1,233,605	$ 97,239	$ 107,983	$ (10,744)	-11.05%
Professional Services		-	-	-	-	
Other Services & Charges		50,700	4,225	2,598	1,627	38.51%
Communications		17,400	1,450	2,251	(801)	-55.22%
Information Technology		8,500	708	58	651	91.86%
Supplies		2,000	167	-	167	100.00%
Operations & Maintenance		84,550	7,046	5,085	1,960	27.82%
Equipment Purchases		139,000	11,583	10,250	1,333	11.51%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 1,535,755**	**$ 122,418**	**$ 128,224**	**$ (5,806)**	**-4.74%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (1,535,755)**	**$ (122,418)**	**$ (128,224)**	**$ 5,806**	**-4.74%**
Allocations to the Rate Centers						
Urban Water	30.00%	**$ 460,727**	**$ 36,726**	**$ 38,467**	**$ (1,742)**	
Crozet Water	3.50%	**53,751**	**4,285**	**4,488**	**(203)**	
Scottsville Water	3.50%	**53,751**	**4,285**	**4,488**	**(203)**	
Urban Wastewater	56.50%	**867,702**	**69,166**	**72,447**	**(3,280)**	
Glenmore Wastewater	3.50%	**53,751**	**4,285**	**4,488**	**(203)**	
Scottsville Wastewater	3.00%	**46,073**	**3,673**	**3,847**	**(174)**	
	100.00%	**$ 1,535,755**	**$ 122,418**	**$ 128,224**	**$ (5,806)**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Laboratory

Operating Budget vs. Actual

	Notes	Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
N/A						
Expenses						
Personnel Cost		$ 404,171	$ 31,742	$ 33,742	$ (2,000)	-6.30%
Professional Services		-	-	-	-	
Other Services & Charges		7,600	633	83	550	86.84%
Communications		2,100	175	223	(48)	
Information Technology		2,500	208	-	208	100.00%
Supplies		1,300	108	176	(68)	-62.31%
Operations & Maintenance		97,250	8,104	4,756	3,348	41.32%
Equipment Purchases		1,600	133	133	0	0.00%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 516,521**	**$ 41,104**	**$ 39,113**	**$ 1,992**	**4.85%**

Department Summary

		Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Net Costs Allocable to Rate Centers		**$ (516,521)**	**$ (41,104)**	**$ (39,113)**	**$ (1,992)**	**4.85%**
Allocations to the Rate Centers						
Urban Water	44.00%	**$ 227,269**	**$ 18,086**	**$ 17,210**	**$ 876**	
Crozet Water	4.00%	**20,661**	**1,644**	**1,565**	**80**	
Scottsville Water	2.00%	**10,330**	**822**	**782**	**40**	
Urban Wastewater	47.00%	**242,765**	**19,319**	**18,383**	**936**	
Glenmore Wastewater	1.50%	**7,748**	**617**	**587**	**30**	
Scottsville Wastewater	1.50%	**7,748**	**617**	**587**	**30**	
	100.00%	**$ 516,521**	**$ 41,104**	**$ 39,113**	**$ 1,992**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2020

Engineering

Operating Budget vs. Actual

		Budget FY 2021	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Payment for Services SWA		$ -	$ -	$ 7,269	$ 7,269	
Total Operating Revenues		**$ -**	**$ -**	**$ 7,269**	**$ 7,269**	
Expenses						
Personnel Cost	**A**	$ 1,469,358	$ 115,301	$ 121,413	$ (6,112)	-5.30%
Professional Services		30,000	2,500	-	2,500	100.00%
Other Services & Charges		13,800	1,150	688	462	40.20%
Communications		16,200	1,350	1,448	(98)	-7.27%
Information Technology		41,500	3,458	264	3,195	92.38%
Supplies		9,800	817	94	723	88.51%
Operations & Maintenance		127,250	10,604	2,036	8,568	80.80%
Equipment Purchases		21,500	1,792	1,792	(0)	0.00%
Depreciation & Capital Reserve Transfers		-	-	-	-	
Total Operating Expenses		**$ 1,729,408**	**$ 136,972**	**$ 127,734**	**$ 9,237**	**6.74%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (1,729,408)**	**$ (136,972)**	**$ (120,466)**	**$ (1,969)**	**1.44%**
Allocations to the Rate Centers						
Urban Water	47.00%	**$ 812,822**	**$ 64,377**	**$ 56,619**	**$ 7,758**	
Crozet Water	4.00%	**69,176**	**5,479**	**4,819**	**660**	
Scottsville Water	2.00%	**34,588**	**2,739**	**2,409**	**330**	
Urban Wastewater	44.00%	**760,939**	**60,268**	**53,005**	**7,263**	
Glenmore Wastewater	1.50%	**25,941**	**2,055**	**1,807**	**248**	
Scottsville Wastewater	1.50%	**25,941**	**2,055**	**1,807**	**248**	
	100.00%	**$ 1,729,408**	**$ 136,972**	**$ 120,466**	**$ 16,506**	

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
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www.rivanna.org

MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: DAVE TUNGATE, DIRECTOR OF OPERATIONS

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: OPERATIONS REPORT FOR JULY 2020

DATE: AUGUST 25, 2020

WATER OPERATIONS:

The average daily/monthly total water distributed for July 2020 was as follows:

Water Treatment Plant	***Average Daily Production (MGD)***	***Total Monthly Production (MG)***	***Maximum Daily Production in the Month (MGD)***
Observatory	1.67	51.78	3.00 (07/17/20)
South Rivanna	8.66	268.59	9.73 (07/27/20)
North Rivanna	0.45	13.96	0.56 (07/28/20)
Urban Total	10.78	334.33	12.27 (07/20/20)
Crozet	0.76	23.58	1.00 (07/20/20)
Scottsville	0.059	1.84	0.10 (07/29/20)
RWSA Total	11.60	359.75	---

- All RWSA water treatment facilities were in regulatory compliance during the month of July.

Status of Reservoirs (as of August 17, 2020):

- Urban Reservoirs: 97.83 % of Total Useable Capacity
- Ragged Mountain Reservoir is -1.08 feet (95.98 %)
- Sugar Hollow Reservoir is full (100%)
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is full (100%)
- Totier Creek Reservoir is full (100%)

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during July 2020. Stone-Robinson School was closed for the month of July and had zero discharge. Performance of the WRRFs in July was as follows compared to the respective VDEQ permit limits:

WRRF	*Average Daily Effluent Flow (mgd)*	*Average $CBOD_5$ (ppm)*		*Average Total Suspended Solids (ppm)*		*Average Ammonia (ppm)*	
		RESULT	*LIMIT*	*RESULT*	*LIMIT*	*RESULT*	*LIMIT*
Moores Creek	8.8	2.0	10	0.2	22	<QL	2.2
Glenmore	0.104	4.0	15	5.0	30	NR	NL
Scottsville	0.050	2.0	25	1.0	30	NR	NL
Stone Robinson	0.000	NR	30	NR	30	NR	NL

NR = Not Required

NL = No Limit

<QL: Less than analytical method quantitative level (2.0 ppm for CBOD, 1.0 ppm for TSS, and 0.1 ppm for Ammonia).

Nutrient discharges at the Moores Creek AWRRF were as follows for July 2020.

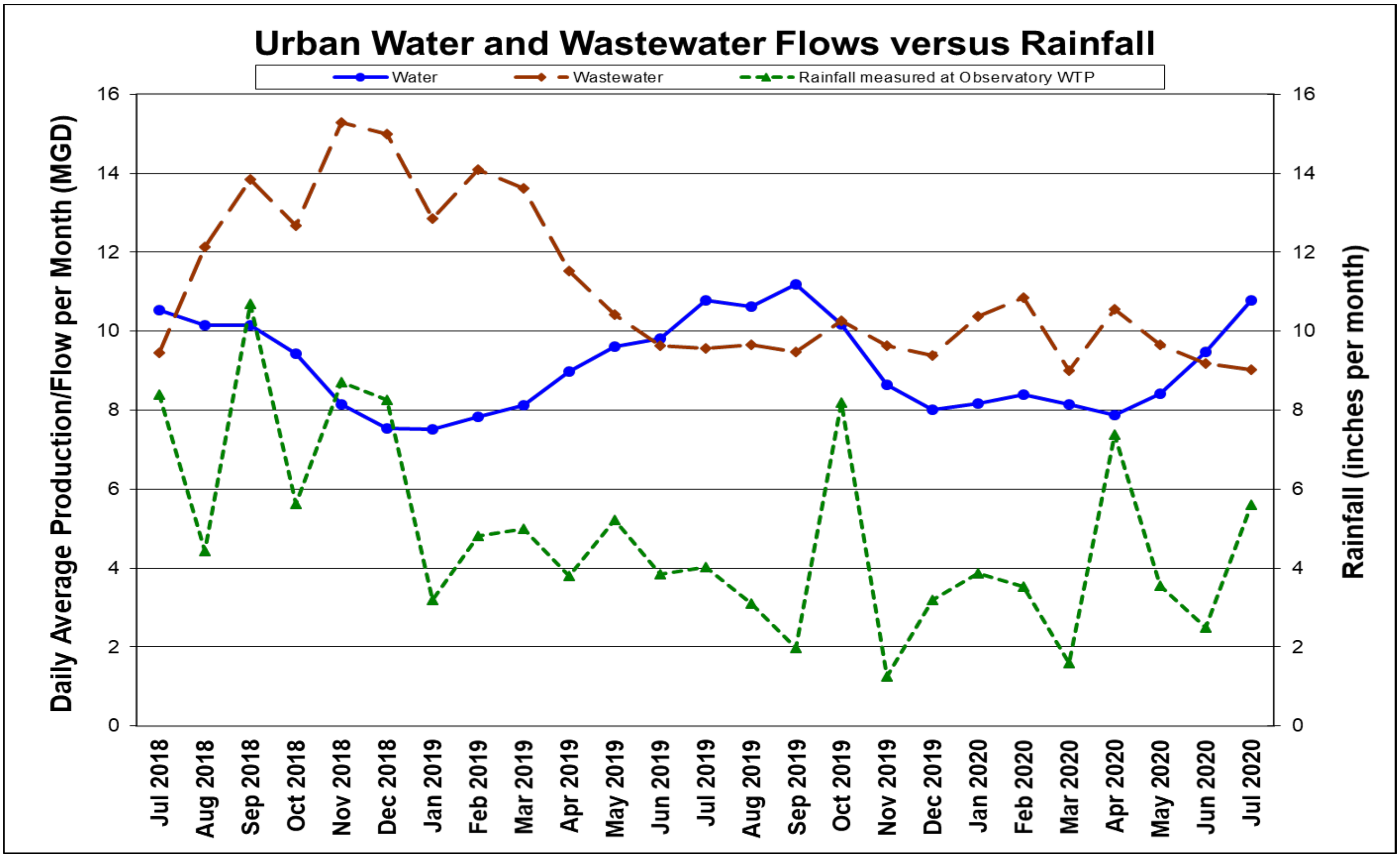
State Annual Allocation (lb./yr.) Permit		*Average Monthly Allocation (lb./mo.) **	*Moores Creek Discharge July (lb./mo.)*	*Performance as % of monthly average Allocation**	*Year to Date Performance as % of annual allocation*
Nitrogen	282,994	23,583	4,734	20%	17%
Phosphorous	18,525	1,544	538	35%	14%

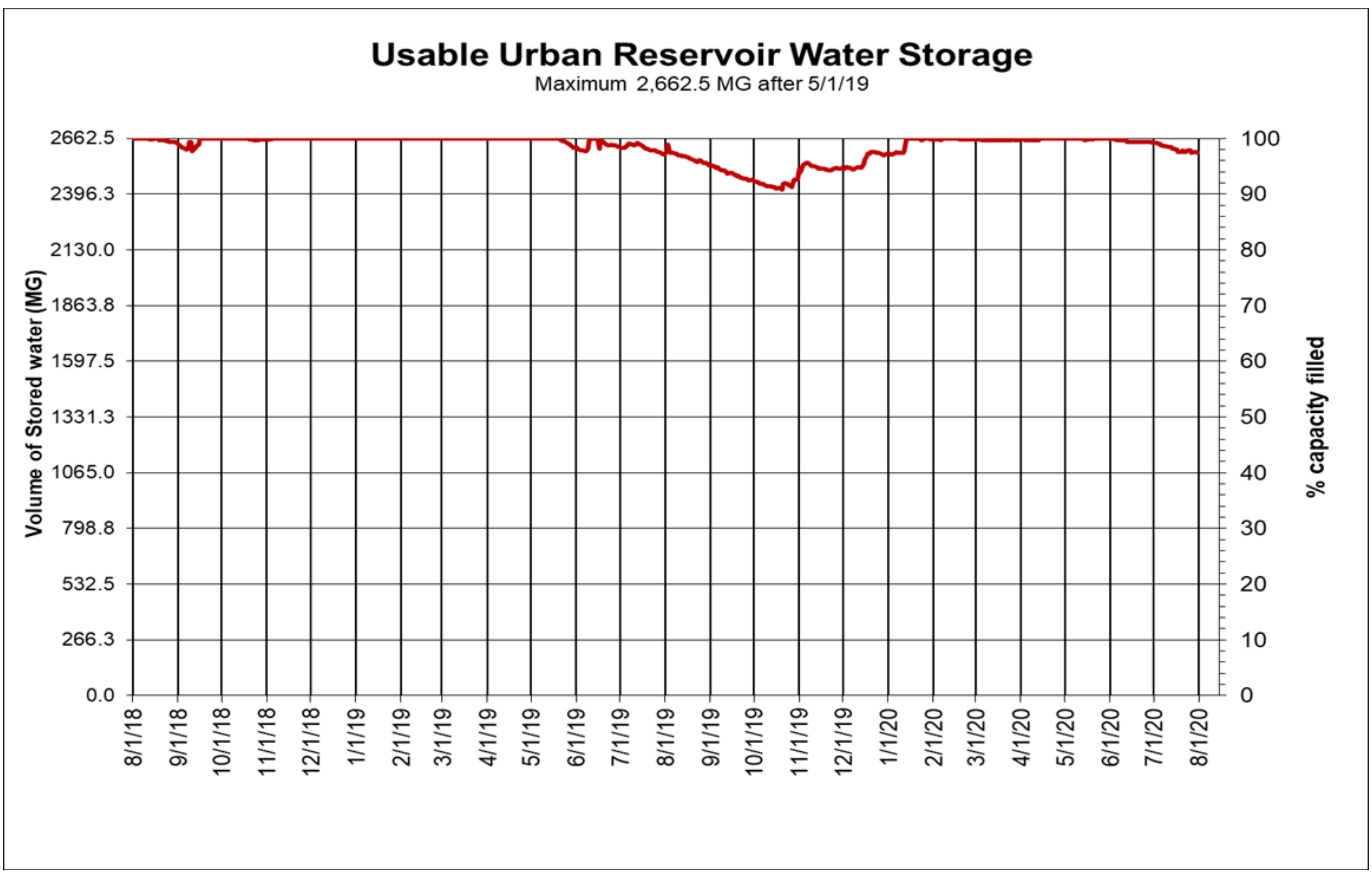
*State allocations are expressed as annual amounts. One-twelfth of that allocation is an internal monthly benchmark for comparative purposes only.

WATER AND WASTEWATER DATA:

The following graphs are provided for review:

- Usable Urban Reservoir Water Storage
- Urban Water and Wastewater Flows versus Rainfall


Urban Water and Wastewater Flows versus Rainfall
Water
Wastewater
Rainfall measured at Observatory WTP
Daily Average Production/Flow per Month (MGD)
Rainfall (inches per month)
16
14
12
10
8
6
4
2
0
Jul 2018
Aug 2018
Sep 2018
Oct 2018
Nov 2018
Dec 2018
Jan 2019
Feb 2019
Mar 2019
Apr 2019
May 2019
Jun 2019
Jul 2019
Aug 2019
Sep 2019
Oct 2019
Nov 2019
Dec 2019
Jan 2020
Feb 2020
Mar 2020
Apr 2020
May 2020
Jun 2020
Jul 2020


Usable Urban Reservoir Water Storage
Maximum 2,662.5 MG after 5/1/19
Volume of Stored water (MG)
% capacity filled
2662.5
2396.3
2130.0
1863.8
1597.5
1331.3
1065.0
798.8
532.5
266.3
0.0
100
90
80
70
60
50
40
30
20
10
0
8/1/18
9/1/18
10/1/18
11/1/18
12/1/18
1/1/19
2/1/19
3/1/19
4/1/19
5/1/19
6/1/19
7/1/19
8/1/19
9/1/19
10/1/19
11/1/19
12/1/19
1/1/20
2/1/20
3/1/20
4/1/20
5/1/20
6/1/20
7/1/20
8/1/20

RIVANNA WATER & SEWER AUTHORITY

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MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING & MAINTENANCE

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: STATUS REPORT: ONGOING PROJECTS

DATE: AUGUST 25, 2020

This memorandum reports on the status of the following Capital Projects as well as other significant operating, maintenance and planning projects.

For the current, approved CIP, please visit: https://www.rivanna.org/wp-content/uploads/2020/06/2021-2025-CIP-Final.pdf

Under Construction

1. Crozet Water Treatment Plant Expansion
2. South Rivanna and Observatory Water Treatment Plant Renovations
3. MC Holding Ponds, Solids Removal and Disposal - Odor Control Phase 2
4. Crozet Flow Equalization Tank
5. MC Aluminum Slide Gate Replacements
6. South Rivanna Dam – Gate Repair
7. Sugar Hollow Dam – Gate Replacement and Intake Tower Repairs

Design and Bidding

8. Ragged Mtn Reservoir to Observatory WTP Raw Water Line and Pump Station
9. Beaver Creek Dam and Pump Station Improvements
10. Airport Road Water Pump Station and Piping
11. South Fork Rivanna River Crossing
12. MC Clarifier and Silo Demolition
13. MC Generator Fuel Expansion
14. MC Facility Renovations
15. MC Exterior Lighting Improvements
16. MC 5kV Electrical System Upgrades
17. Glenmore WRRF Influent Pump & VFD Addition

Planning and Studies

18. South Rivanna Reservoir to Ragged Mtn Reservoir Water Line Right-of-Way
19. Urban Finished Water Infrastructure Master Plan
20. Upper Schenks Branch Interceptor, Phase II
21. Asset Management Plan
22. Albemarle-Berkeley PS Capacity Analysis
23. Buck Mountain Master Plan
24. MC Facilities Master Plan
25. SRR to RMR Pipeline – Pretreatment Pilot Study

Other Significant Projects

26. Urgent and Emergency Repairs
27. Interceptor Sewer & Manhole Repair
28. Security Enhancements

Under Construction

1. Crozet Water Treatment Plant Expansion

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Orders Construction Co. (WVA)
Construction Start:	December 2018
Percent Complete:	72%
Base Construction Contract + Change Order to Date = Current Value:	$7,170,000- $225,600.80 = $6,945,399.20
Completion:	May 2021
Total Capital Project Budget:	$8,500,000

Current Status: Work continues on the expansion of the Chemical Building, improvements to the sedimentation basins and filters, and backwash tank construction.

2. South Rivanna and Observatory Water Treatment Plant Renovations

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	6%
Base Construction Contract + Change Orders to Date = Current Value:	$36,748,500
Completion:	March 2023
Total Capital Project Budget:	$43,000,000

Current Status: Construction of the liquid lime enclosure, filter building expansion and yard piping modifications at the South Rivanna Water Treatment Plant is underway.

3. MC Holding Ponds, Solids Removal and Disposal – Odor Control Phase 2

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Merrell Bros., Inc. (Indiana)
Construction Start:	August 2020
Percent Complete:	0%
Base Construction Contract + Change Orders to Date = Current Value:	$839,785
Completion:	March 2021
Total Capital Project Budget:	$975,000

Current Status: Neighbors were notified about the potential odors. Contractor mobilized on August 12, 2020 and began setting up equipment.

4. Crozet Flow Equalization Tank

Design Engineer:	Schnabel Engineering
Construction Contractor:	Anderson Construction
Construction Start:	September 2020
Percent Complete:	0%
Based Construction Contract + Change Orders to Date = Current Value:	$4,406,300
Completion:	November 2022
Approved Capital Budget:	$5,400,000

Current Status: Contract execution is in progress.

5. MC Aluminum Slide Gate Replacements

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Waco Incorporated
Construction Start:	September 2020
Percent Complete:	0%
Base Construction Contract + Change Orders to Date = Current Value:	$373,600 - $30,400 = $343,200
Completion:	October 2021
Total Capital Project Budget:	$675,000

Current Status: Contract execution is in progress.

6. South Rivanna Dam – Gate Repairs

Design Engineer:	N/A
Contractor:	Bander Smith, Inc.

Construction Start:	September 2020
Project Status:	30%
Completion:	December 2020
Approved Capital Budget:	$900,000

Current Status: A condition assessment of the 36” mud gates has been completed. RWSA’s on-call dam maintenance contractor will proceed with replacement of missing stem guides and actuators to improve the seal of the existing gates. This work is anticipated to be completed between September and November, 2020. If replacement of one or more of the gates is determined to be necessary, that work is expected to take place in December of 2020.

Design and Bidding

7. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Pump Station

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2018
Project Status:	Prelim Design & Easement Acquisition in Progress
Construction Start:	2022
Completion:	2026
Approved Capital Budget:	$3,877,000
Current Project Estimate:	$18,000,000

Current Status: Easement discussions with private owners and UVA are underway.

8. Beaver Creek Dam and Pump Station Improvements

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen & Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	5% Design and Permitting Underway
Construction Start:	2023
Completion:	2026
Approved Capital Budget:	$9,036,000
Current Project Estimate:	$27,000,000

Current Status: A site selection study for the new Raw Water Pump Station, Intake and Piping has been substantially completed. Hazen is moving forward with environmental investigations required for development of a Joint Permit Application to be submitted to the VDEQ in the fall of 2020.

9. Sugar Hollow Dam – Gate Replacement and Intake Tower Repairs

Design Engineer:	Schnabel Engineering
Project Start:	January 2019
Project Status:	Contract Award
Construction Start:	Spring 2021
Completion:	Fall 2021
Approved Capital Budget:	$1,700,000

Current Status: Bids were opened August 22, 2020, and a recommendation for award is being taken to the Board this month. It is anticipated that a Notice to Proceed will be issued in October of 2020 and construction will be completed by fall of 2021.

10. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2019
Project Status:	25% Design
Construction Start:	Spring 2021
Completion:	2022
Approved Capital Budget:	$5,800,000

Current Status: Preliminary Engineering Report is being reviewed and the initial site plan submittal is anticipated this month.

11. South Fork Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Fall 2021
Completion:	Summer 2023
Approved Capital Budget:	$2,800,000

Current Status: A work authorization for design, bidding, and construction phase services is included in this month's Board package.

12. MC Clarifier and Lime Silo Demolition

Design Engineer:	Hazen and Sawyer
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Summer 2021
Completion:	Summer 2022
Approved Capital Budget:	$655,000

Current Status: Hazen is developing a Work Authorization for design, bidding and construction administration services.

13. MC Generator Fuel Storage Expansion

Design Engineer:	TBD
Project Start:	August 2020
Project Status:	Project Planning
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Approved Capital Budget:	$100,000

Current Status: Staff is consulting with the Maintenance Department to confirm project requirements. SEH is preparing a work authorization for assistance with design and development of a quote package.

14. MC Facility Renovations

Design Engineer:	SEH, Inc.
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Approved Capital Budget:	$375,000

Current Status: Negotiating a work authorization with SEH for preliminary engineering services for renovations to the Duty Pump Station.

15. MC Exterior Lighting Improvements

Design Engineer:	Hazen and Sawyer
Project Start:	May 2019
Project Status:	Preliminary Engineering
Construction Start:	December 2020
Completion:	February 2022
Approved Capital Budget:	$1,000,000

Current Status: Coordinating a Site Plan Amendment and ARB approval with Albemarle County. Negotiated a work authorization with Hazen & Sawyer for design, bidding and construction services.

16. MC 5 kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	March 2022

Completion:	June 2024
Current Project Estimate:	$4,600,000

Current Status: A CIP Amendment and work authorization for design, bidding, and construction phase services are included in this month's Board package.

17. Glenmore WRRF Influent Pump and VFD Addition

Design Consultant:	TBD
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Approved Capital Budget:	$65,000

Current Status: Staff is confirming the required scope of work with the Operations and Maintenance Departments.

Planning and Studies

18. South Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way

Design Engineer:	Michael Baker International (Baker)
Project Start:	October 2017
Project Status:	Easement Acquisition Underway
Completion:	2021
Approved Capital Budget:	$2,295,000

Current Status: Acquisition efforts continue. Offers have been made to 11 of 13 private property owners, and eight easements have been acquired. Most of the remaining easements are on publicly owned property (VDOT, City, County School Board,). Negotiations with two private owners, UVA, the UVA Foundation and the Virginia Department of Forestry are also ongoing for water line easements between Ragged Mtn Reservoir and the Observatory Water Treatment Plant.

19. Urban Finished Water Infrastructure Master Plan

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	70% complete
Completion:	October 2020
Approved Capital Budget:	$253,000

Current Status: Baker is developing and conducting hydraulic model runs to indicate infrastructure piping and storage tank requirements at specific locations. Workshops with ACSA and the City are anticipated over the 60 days.

20. Upper Schenks Branch Interceptor, Phase II

Design Engineer:	Frazier Engineering, P.A.
Project Start:	TBD
Project Status:	Alignment Analysis
Construction Start:	TBD
Completion:	TBD
Approved Capital Budget:	$3,985,000

Current Status: Discussions about the pipe alignment have been renewed with the County and the City.

21. Asset Management Plan

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	Phase 2 – 60% Complete
Completion:	2020
Approved Capital Budget:	$1,115,000

Current Status: Development of an asset register, condition assessment protocols, and a pilot study of the asset management process is underway. A request for quotations for procurement of computerized maintenance management software (CMMS) is being finalized and demonstrations were held with software vendors.

22. Albemarle-Berkley PS Capacity Analysis

Design Consultant:	GHD, Inc.
Project Start:	September 2019
Project Status:	20% Complete
Completion:	December 2020
Approved Capital Budget:	$40,000

Current Status: Capacity analysis is underway.

23. Buck Mountain Master Plan

Design Consultant:	LPDA (Charlottesville)
Project Start:	November 2019
Project Status:	95% Complete
Completion:	July 2020
Budget:	$56,000

Current Status: Study results may be presented to the Board in August.

24. MC Facilities Master Plan

Design Consultant:	Hazen and Sawyer
Project Start:	August 2019
Project Status:	55% Complete
Completion:	March 2021
Budget:	$275,000

Current Status: Study is underway and multiple workshops have been held with staff.

25. SRR to RMR Pipeline – Pretreatment Pilot Study

Design Consultant:	TBD
Project Start:	August 2020
Project Status:	Project Planning
Completion:	TBD
Budget:	TBD

Current Status: Staff is reviewing previous studies associated with pretreatment needs and project costs.

Other Significant Projects

26. Urgent and Emergency Repairs

Staff are currently working on several urgent repairs within the water and wastewater systems as listed below:

Project No.	Project Description	Approx. Cost
2018-06	South Rivanna Dam Apron and River Bank Repairs	$200,000
2019-07	Urban Water Line Valve and Blow-off Repair	$125,000
2020-06	Erosion between WBI MH-22 and MH-23	$150,000
2020-07	Stillhouse Waterline Exposure @ Ivy Creek	$182,000
2020-10	Erosion along access road to South Rivanna RWPS	$10,000
2020-12	NRW-093 Valve Failure	$175,000
2020-14	MCWWPS Gate Valve 205 Replacement	TBD
2020-15	SRW-ARV-16 Failure	$5,000
2020-16	Albemarle-Berkeley WWPS Bypass Connection	$50,000

- South Rivanna Dam Apron and River Bank Repairs: Repairs to the north and south concrete aprons will be designed by Schnabel Engineering and those services will be procured from the on-call contractor.

- Urban Water Line Valve and Blow-off Repair: Faulconer Construction has completed the installation of a new drain valve at UWL-017, as well as the associated modifications to the drain line outlet and creek bank. With the installation of the new drain valve on March 18th, any leakage in this location has ceased. Staff continues to coordinate the logistics of the UWL-025 replacement near Gasoline Alley, including the appropriate location of the discharge. Staff has also been notified of a similar (slight leakage) issue at UWL-010 near Route 29. Staff will continue coordinating and planning these repairs with Faulconer Construction, with the repairs tentatively scheduled for completion in the Fall.
- Erosion over WBI Between MH-22 and MH-23: While performing routine line inspections in March, the RWSA Maintenance Department discovered that an adjacent creek had eroded its way over the top of RWSA's 12" Woodbrook Interceptor (WBI). While no infrastructure is exposed at this time, the sewer was not designed to run under the creek (no encasement present), and future high flow events will continue to erode cover from the top of the pipe (currently estimated at 2-4'). Staff is currently evaluating the repair and coordinating with the applicable regulatory agencies, and has also coordinated a site visit with Faulconer Construction to begin reviewing the logistics of this repair. This repair is scheduled to begin in September, following final coordination with the U.S. Army Corps of Engineers, as well as the surrounding property owners.
- STW Exposure @ Ivy Creek: While performing routine line inspections in April, the RWSA Maintenance Department identified that RWSA's 12" Stillhouse Waterline (STW) had become exposed on the bank of Ivy Creek. Maintenance Department staff was able to temporarily protect the waterline with nearly 500 sandbags, and Engineering Department staff began coordination with the U.S. Army Corps of Engineers, Virginia Marine Resources Commission, and RWSA's On-Call Maintenance Contractor, Faulconer Construction. All appropriate regulatory approvals were received, and Faulconer Construction mobilized to the site to begin the placement of 175-200 LF of large rip-rap along the creek bank on May 11th. The creek bank armament/repairs were completed in June, and Faulconer Construction is performing final site touch-up/restoration efforts on the access road to the site.
- Erosion along access road to South Rivanna Raw Water Pump Station/Dam: Staff was notified in April that the access road to the South Rivanna Raw Water Pump Station and Dam had become undermined, caused by the lack of an armored v-ditch. RWSA Maintenance staff has installed fresh fill and a rip-rap v-ditch along the road, in order to fill in the undermined locations and allow for better control of stormwater. Staff is evaluating the need for additional improvements, which may be required to ensure that the stormwater makes it to the culvert located adjacent to the pump station.
- NRW-093 Valve Failure: On Friday Morning, May 29, following the successful replacement of NRW-096 under RWSA's ongoing Valve Repair-Replacement Project, RWSA Maintenance and Engineering staff was slowly refilling the 24" South Rivanna and 12" North Rivanna Waterlines (SRW and NRW, respectively), when RWSA valve NRW-093 unexpectedly failed after being completely opened. Using the brand new NRW-096, the issue was quickly isolated to the 12" NRW, and RWSA mobilized its On-Call Maintenance Contractor, Faulconer Construction.

Extensive efforts by Faulconer Construction, as well as RWSA Maintenance and Engineering staff, continued on the necessary line repairs overnight into Saturday Morning, when the line was reopened by RWSA and ACSA Maintenance staffs. This work also required extensive efforts to repave approximately 150' of Route 29, which was completed by S.L. Williamson as a subcontractor to Faulconer Construction. Faulconer recently finished the necessary sidewalk repairs, as well as final grading and seeding after receiving the required permitting from VDOT.

- Moores Creek WWPS Gate Valve 205 Replacement: In July 2020, RWSA Operations staff identified that MCWWPS Gate Valve 205 had become stuck in nearly the fully closed position, causing a reduction in the discharge capacity of the pumping station (PS), especially during wet weather events where both of the 24" force mains leaving the PS are required. Waco, Inc. was selected to perform the work under an Emergency Declaration by the Executive Director, and staff worked with Waco to plan for the associated force main shutdown and valve replacement. Due to excessive lead times and impending weather, a spool piece of pipe was procured for temporary installation while the replacement valve is procured. The existing gate valve was ultimately replaced with the spool piece of pipe during a planned pumping station shutdown during the early morning hours of August 2, 2020, restoring full pumping capabilities to the PS. In the preliminary attempts to shut down one of the two discharge force mains and replace the No. 205 valve, it was discovered that additional valves inside of the PS are not fully holding when placed in a closed position. Staff is currently evaluating the needs associated with bypass pumping around MCWWPS, which would allow for the permanent installation of the No. 205 Gate Valve Replacement, as well as replacement of the adjacent valves mentioned above and inspections of equipment inside of the PS that normally can't be inspected due to the incoming flows.
- SRW-ARV-16 Failure: On Wednesday afternoon, July 15th, the RWSA Maintenance Department was working to upgrade SRW-ARV-16, an existing, 1960s-vintage, Manual ARV, to a new Automatic ARV assembly. While working around the valve box structure, the valve box unexpectedly shifted, causing debris to become pinched against the old ARV and ultimately a failure (breakage) of the assembly. The RWSA and ACSA Maintenance Departments responded quickly to isolate the necessary section of water main in the Rio Road Corridor, and the RWSA Maintenance Department was able to access the Corporation Stop, end the leakage, and begin placing the line back into service shortly thereafter.
- Albemarle-Berkeley WWPS Bypass Pumping Connections: The existing pumping equipment inside of the Albemarle-Berkeley WWPS was installed in 1973, and in recent years, has seen excessive run times with minimal starts and stops. The pumping equipment has well exceeded its useful life expectancy, and the ongoing Capacity Analysis (discussed above in Planning & Studies) will serve to establish the basis for future improvements to the PS. However, in the interim, there is a need to provide emergency pumping capabilities, in the event of unanticipated pump failure. In late August/Early September, RWSA will be coordinating a planned, overnight shutdown of the Albemarle-Berkeley WWPS for its On-Call Maintenance Contractor, Faulconer Construction, to tie-in an emergency bypass connection, which will allow RWSA Operations and Maintenance staff to quickly mobilize a temporary pump in the event of unanticipated issues with the permanent

pumping equipment. The single PS shutdown will be needed to cut in a tee/valve assembly during the overnight hours, but the rest of the work will have no impact to PS operations.

27. Interceptor Sewer and Manhole Repair

Design Engineer:	Frazier Engineering
Construction Contractor:	IPR Northeast
Construction Start:	November 2017
Percent Complete:	40%
Base Construction Contract + Change Orders to Date = Current Value:	$1,244,337.19
Expected Completion:	June 2021
Total Capital Project Budget:	$1,088,330 (Urban) + $880,000 (Crozet) = $1,968,330

Current Status: Repairs to the Upper Morey Creek Interceptor remain underway, with one final section of sewer remaining to be lined, as well as one new manhole to be installed (with a slight sewer realignment to rectify an existing utility conflict). Staff continues to coordinate with both the consultant and contractor to get the repairs completed as soon as possible on this portion of MRI. Staff has also been working with the consultant to identify the highest-priority items elsewhere in the sanitary sewer system for the next round of repairs.

28. Security Enhancements

Design Engineer:	N/A
Construction Contractor:	Security 101
Construction Start:	March 2020
Percent Complete:	60%
Based Construction Contract + Change Orders to Date = Current Value:	$744,136.80 - $25,708.80 = $718,428.00 (WA #1)
Completion:	2021
Approved Capital Budget:	$1,000,000

Current Status: Access control system installation is underway for all exterior doors at MCAWRRF, as well as all WTP motorized gates. Device installation remains underway across the site, with several of the smaller buildings having been completed at this point (programming will still be needed as installations are completed).

History

Under Construction

1. Crozet Water Treatment Plant Expansion

This project was created to increase the supply capacity of the existing Crozet WTP by modernizing plant systems. The goal was to not drastically increase the plant footprint in regard to the existing filter plant, flocculation tanks, and sedimentation basins. By modernizing the outdated equipment within these treatment systems, the plant treatment capacity will be improved by approximately 100% (from 1 to 2 MGD). A Notice to Proceed was issued on December 13, 2018 and the contractor mobilized on February 26, 2019.

2. **South Rivanna and Observatory Water Treatment Plant Renovations**
An informational meeting with prospective contractors was held on September 26, 2019 to maximize interest in the project. A project kickoff meeting with staff was held on November 14, 2018 and 30% design documents were provided in February. A Value Engineering Workshop took place the week of April 8, 2019, and a memo summarizing the results has being completed. Agreed upon results were incorporated into the project.

Observatory: This project will upgrade the plant from 7.7 to 10 MGD capacity. Costs to upgrade the plant to 12 MGD were determined to be too high at this time. Much of the Observatory Water Treatment Plant is original to the 1953 construction. A Condition Assessment Report was completed by SEH in October of 2013. The approved Capital Improvement Plan project was based on the findings from this report. The flocculator systems were replaced and upgraded as part of the Drinking Water Activated Carbon and WTP Improvements project (GAC). Four additional GAC contactors will be included in the design.

South Rivanna: The work herein includes expansion of the coagulant storage facilities; installation of additional filters to meet firm capacity needs; the addition of a second variable frequency drive at the Raw Water Pump Station; the relocation for the electrical gear from a sub terrain location at the Sludge Pumping Station; a new building on site for additional office, lab, control room and storage space; improvements to storm sewers to accept allowable WTP discharges; of new metal building to cover the existing liquid lime feed piping and tanks. The scope of this project will not increase the 12 MGD plant treatment capacity.

3. **MC Holding Pond Solids Removal and Disposal – Odor Control Phase 2**
Over the last 10 – 20 years, grit and organic material have accumulated in the Wet Weather Holding Ponds and Equalization Basins at the Moores Creek Advanced Water Resource Recovery Facility (MC). Following extensive liquid and vapor phase testing and computer modeling, these solids were identified as a major source of odor in Hazen and Sawyer's Phase 2 Odor Control Plan, and approved at the January 2015 Board of Directors meeting for incorporation into the 2015-19 Capital Improvement Plan. Now that all other Phase 2 Odor Control projects have been completed, this final phase of the project is to remove these accumulated solids.

4. **Crozet Flow Equalization Tank**
A 2016 update to the 2006 model was completed which evaluated the I&I reduction goals previously established and future capital project needs. Based on the results of that study, it was determined that the Crozet Interceptor system and the existing Crozet Pump Stations (1 through 4) have adequate capacity to handle the 2015 peak wet weather flow from the Crozet Service Area during a two-year storm. However, as projected growth in the service area occurs, peak wet weather flows in the area under the storm conditions established in the updated model will begin to exceed the firm capacities of the pump stations by 2025. Additional I&I reductions in order to reduce flows enough to not exceed

the pump station firm capacities are not feasible and as a result, the construction of a flow equalization tank was identified as the best method to alleviate wet weather capacity issues.

While the study indicates that capacity should not be an issue until 2025, a flow equalization tank would also provide a significant benefit to the maintenance of the Crozet Pumping Station system which currently lacks system storage necessary to allow adequate time to perform repairs on the pumps and the associated force mains while the system is down.

Greeley and Hansen completed a siting study to determine the location for the flow equalization tank based on the results of the comprehensive model update. The results of the siting study were reviewed with ACSA and a final tank location was determined.

A work authorization with Schnabel Engineering was finalized and a Project Kick-off Meeting was held on July 12, 2018. The construction bids were received on July 16, 2020.

5. MC Aluminum Slide Gate Replacements

Several large aluminum slide gates are located at the influent side of the Moores Creek Pump Station. These gates allow staff to stop or divert flow to perform maintenance activities. After repeated attempts to repair the deteriorated gates, it is now necessary to replace the gates and modify the gate arrangement. There are also several deteriorated gates at the Ultraviolent disinfection facility that leak water, causing a reduced capacity of the facility. Replacement of these gates will restore the process to full capacity.

6. South Rivanna Dam – Gate Repairs

The South Rivanna Dam, originally constructed in 1965, is equipped with two 36” diameter slide gates and conduits, one each on the north and south abutments of the dam, which can be utilized to dewater the facility or to meet minimum instream flow (MIF) requirements when the dam is not spilling. These gates are original to the dam and while they are operable and are exercised regularly, they are deteriorated and can no longer provide a complete seal, therefore allowing some leakage through the dam. RWSA has protocols in place to temporarily stop leakage through the gates when necessary to conserve water; however, there is a desire to repair or replace the gates and components as needed to restore full functionality. The project includes other repairs to the facility, including improvements to the concrete wall adjacent to the Raw Water Pump Station as well as improvements to the north dam tower to provide safer access by staff while still discouraging access by the general public.

Design and Bidding

7. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Raw Water Pump Station

A Work Authorization was executed in December 2018 with Michael Baker International for the raw water line routing study, preliminary design, plat creation and the easement acquisition process for this portion of the project. Raw water is transferred from the Ragged Mountain Reservoir (RMR) to the Observatory Water Treatment Plant (WTP) by way of two 18-inch cast iron pipelines, which have been in service for more than 110 and 70 years, respectively. The increased frequency of emergency repairs and expanded maintenance requirements are one impetus for replacing these pipelines. The proposed water line will be able to reliably transfer water to the expanded Observatory plant. The new pipeline will be constructed of 36-inch ductile iron and will be approximately 2.6 miles feet in length. The segment of the project immediately east of the RMR will constitute a portion of the proposed South Rivanna Reservoir to RMR raw water main project as part of the approved 50-year Community Water Supply Plan.

The RMR to Observatory WTP raw water pump station is planned to replace the existing Stadium Road and Royal pump stations, which have exceeded their design lives or will require significant upgrades with the Observatory WTP expansion. The pump station will pump up to 10 million gallons per day (MGD) of raw water to the Observatory WTP. The new pump station site selection and design are being conducted in coordination with the South Rivanna Reservoir to RMR pipeline in the interest of improved operational and cost efficiencies. An integrated pump station would also include the capacity to transfer up to 16 MGD of raw water from RMR back to the SR WTP.

8. Beaver Creek Dam and Pump Station Improvements

Dam: RWSA operates the Beaver Creek Dam and reservoir as the sole raw water supply for the Crozet Area. In 2011, an analysis of the Dam Breach inundation areas and changes to Virginia Department of Conservation and Recreation (DCR) *Impounding Structures Regulations* prompted a change in hazard classification of the dam from Significant to High Hazard. This change in hazard classification requires that the capacity of the spillway be increased. This CIP project includes investigation, preliminary design, public outreach, permitting, easement acquisition, final design, and construction of the anticipated modifications. Work for this project will be coordinated with the new relocated raw water pump station and intake and a reservoir oxygenation system project.

Schnabel Engineering developed three alternatives for upgrading the capacity of the Beaver Creek Dam Spillway in 2012. Following the adoption of a new Probable Maximum Precipitation (PMP) Study on December 9, 2015 and the release of DCR guidelines for implementing the PMP study in March of 2016, RWSA determined it would proceed with an updated alternatives analysis and Preliminary Engineering Report for upgrading the dam spillway. Following the completion of an updated alternatives analysis by Schnabel Engineering, staff met with members of Albemarle County and ACSA staff to discuss the preferred alternative. It was determined that staff would proceed with design of a labyrinth spillway and chute through the existing dam with a bridge to allow Browns Gap Turnpike to cross over the new spillway.

Pump Station: The Drinking Water Infrastructure Plan for the Crozet water service area, developed by Hazen and Sawyer, recommends installation of a new Raw Water Pump Station and Intake at the Beaver Creek Dam in order to meet new minimum instream flow requirements and provide adequate raw water pumping capacity to serve the growing Crozet community for the next 50 years. The pump station will be moved out of its existing location at the toe of the dam to a new location, to be determined during design. The new intake structure will include enhanced controls to allow for access to the best quality water at any given time.

9. Sugar Hollow Dam – Rubber Crest Gate Replacement and Intake Tower Repairs

In 1998, the Sugar Hollow Dam underwent a significant upgrade to improve structural stability and spillway capacity. The original metal spillway gates were replaced with a manufactured five-foot-high inflatable rubber dam that is bolted to the existing concrete structure. This rubber dam allows for the normal storage of water in the reservoir with the ability to be lowered during extreme storm events.

The rubber dam has an approximate service life of twenty years and is therefore now due for replacement. The aging intake tower structure has been inspected and evaluated. Recommended repairs will include repairs to the intake gate valves and tower walls, including repair or replacement of intake trash racks, and sealing/grouting of minor concrete wall cracks.

10. <u>Airport Road Water Pump Station and Piping</u>

The Rt. 29 Pump Station and Pipeline master plan was developed in 2007 and originally envisioned a multi-faceted project that reliably connected the North and South Rivanna pressure bands, reduced excessive operating pressures, and developed a new Airport pressure zone to serve the highest elevations near the Airport and Hollymead Town Center. The master plan update was completed in June of 2018 to reflect the changes in the system and demands since 2007. This project, along with the South Rivanna River Crossing and North Rivanna Transmission Main project, will provide a reliable and redundant finished water supply to the North Rivanna area. The proposed pump station will be able to serve system demands at both the current high pressure and future low pressure conditions. These facilities will also lead to future phase implementation which will include a storage tank and the creation of the Airport water pressure zone. The North Rivanna Transmission Main improvements included under a separate CIP project have been added to this project to allow connection of the pump station to the distribution system.

11. <u>South Fork Rivanna River Crossing</u>

RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 29 Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl’s department store. To complete the connection between the SRWTP and the new 24-inch water main in Rt. 29, there is a need to construct a new river crossing at the South Fork Rivanna River. Acquisition of right-of-way will be required at the river crossing.

12. <u>MC Clarifier and Lime Silo Demolition</u>

The two in-plant clarifiers were constructed in the late 1950’s and were taken out of service as a result of the Odor Control Project at the plant. Due to the age of the tanks, various components have significantly deteriorated over time and no additional uses for these tanks have been identified. In addition, due to their out-of-service status, they remain empty and a safety concern for plant staff and visitors. There is also an abandoned lime silo currently located adjacent to the Solids Handling Building. Lime was previously used with the old plat and frame presses before centrifuges were installed for sludge dewatering purposes. This project will include the complete demolition of the in-plant clarifiers by removing all existing components, backfilling the area and returning the area to open space and removing the lime silo from the plant and properly disposing of it.

13. <u>MC Generator Fuel Expansion</u>

The Moores Creek AWRRF south side electrical facilities have a single large system back-up power generator that was installed between 2009 – 2012 during the ENR plant upgrade. The generator has a belly tank that allows for approximately 22 hours of operation. This project will install an ancillary fuel tank that will allow for approximately three days of operation.

14. MC Facility Renovations

The RWSA Administration Building Board Room finishes are generally original to the facility. The proposed project will update the wall and floor coverings, alter the shelving and update the room furnishings in order to create a more modern and useable meeting space.

The Duty Pump Station was construction in 1958 and no longer functions as an actual pump station. It currently houses electrical equipment that serves the plant, but otherwise has available space that could be beneficially used for other purposes. RWSA has a need for additional office space and has evaluated repurposing portions of the Duty Pump Station for office and work space in order to make use of all available space at the plant before proceeding with more significant administrative expansions. This project includes demolition of a select portion of the interior of the station, cleaning and sanitizing of the areas to be repurposed, and an interior upfit of the space to provide additional office and work space.

15. MC Exterior Lighting Improvements

The lighting at the 80-acre MCAWRRF consists of over 300 fixtures installed over the entire life of the facilities presence at Moores Creek. In 2019, Albemarle County investigated the lighting plan at the facility and issued a Zoning Notice of Violation.

RWSA and Albemarle County staff have been working together to best address the issue. A photo metric plan of existing lighting was submitted to the county for review. RWSA is currently compiling a minor site plan amendment and Architectural Review Board submission that will include a large scale replacement of non-compliant fixtures as well as address industrial lighting standards for the entire facility

16. MC 5 kV Electrical System Upgrades

After discussions through the Moores Creek Facilities Master Plan, it was identified that several areas of the MCAWRRF, including the Blower Building, Sludge Pumping Building, Grit Removal Building, Moores Creek Pumping Station, and the Administration Building are all still connected to the original 5kV switchgear in the Blower Building. This equipment, including the associated cabling, switchgear, transformers and motor control centers (MCCs), has a useful life expectancy of 20-30 years. Most of this equipment was installed around 1980. With the equipment having well exceeded its useful life expectancy at this point, safety is a concern given the large electric loads that the cabling and other equipment are handling on a day-to-day basis. Failure of the existing 5kV infrastructure could also result in temporary outages of certain treatment processes, and repairs could take weeks to months given the lead times associated with equipment of this age. A technical memo was provided in July 2020 by Hazen & Sawyer, which recommended that a CIP Project be added immediately to encompass replacement of the original 1980s-vintage 5kV cables, switchgear, transformers, and MCCs. A CIP Amendment Recommendation has been included in the August 2020 Board Packet.

17. Glenmore WRRF Influent Pump and VFD Addition

The 0.381-mgd water resource recovery facility, located within the Glenmore subdivision, is operated by RWSA. The facility includes an influent pumping station located immediately adjacent to the treatment facility. The Glenmore WRRF is predicted to see additional dry and wet weather flows as construction within the service area continues. Future wet weather flows will require higher influent pumping capacity and an additional pump and electrical variable frequency drive will be required to maintain firm capacity.

Planning and Studies

18. South Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way

The approved 50-year Community Water Supply Plan includes the construction of a raw water line from the South Rivanna Reservoir to the Ragged Mountain Reservoir. This water line will replace the existing Upper Sugar Hollow Pipeline and increase raw water transfer capacity in the Urban Water System. The preliminary route for the water line followed the proposed Route 29 Charlottesville Bypass; however, the Bypass project was suspended by VDOT in 2014, requiring a more detailed routing study for the future water line. This project includes a routing study, preliminary design and preparation of easement documents, as well as acquisition of water line easements along the approved route.

Baker has completed the routing study. Preliminary design, plat creation and the acquisition of easements are underway. Property owners were contacted to request permission to access properties for topographical surveying. A community information meeting was held in June 2018.

19. Urban Finished Water Infrastructure Master Plan

As identified in the 2017 Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. Many previously identified projects in the urban finished water treatment and distribution system are in preliminary engineering, design or construction. As such, staff have identified a need to develop a current and ongoing finished water master plan.

20. Upper Schenks Branch Interceptor, Phase II

The Schenks Branch Sanitary Sewer interceptor is a pipeline operated by RWSA that serves the City of Charlottesville. The 21-inch sewer line was originally constructed by the City in the 1950s. Evaluations from the flow metering and modeling from the Comprehensive Sanitary Sewer Interceptor Study, and negotiations with the ACSA and City, resulted in an inflow and infiltration reduction plan from which it was concluded that increased capacity of the Schenks Branch Interceptor was needed for wet weather peak flow. Due to several road construction projects and the construction of the Meadow Creek Interceptor project along the sewer alignment, Schenks Branch was to be constructed in multiple phases. The completed sections, collectively known as the Lower Schenks Branch Interceptor, include the Tie-in to Meadow Creek, the section along McIntire Road Ext, and the section though the Route 250 Interchange.

The remaining sections, which are considered the Upper Schenks Branch Interceptor, were split into 2 phases. The first phase has been completed and is located within City-owned Schenks Greenway adjacent to McIntire Road, and the second phase is to be located on County property (baseball field and County Office Building) adjacent to McIntire Road or within McIntire Road.

21. **Asset Management Plan**

Asset management is the practice of managing our infrastructure to minimize the total cost of owning and operating these assets while providing desired service levels. In doing so, it is used to make sure planned maintenance activities take place and that capital assets are replaced, repaired or upgraded at the right time, while ensuring that the money necessary to perform those activities is available. RWSA has some components of an asset management program in place (i.e. GIS, work order system), but has identified the need to further develop the program as part of our Strategic Planning process. In order to continue to build the program, a consultant has been procured to assist with a three-phase process that will include facilitation and development of an asset management strategic plan, development and management of a pilot study where the results of the strategic plan will be applied to a specific class of assets, and assistance through a full implementation process. As part of this three-phase process, the consultant will also assist RWSA with the procurement of a software package to facilitate the overall program.

22. **Albemarle-Berkeley PS Capacity Analysis**

The Albemarle Berkley wastewater pump station serves the schools and other connections in the area near Albemarle High School. Due to unacceptably high run times on the pumps, a capacity analysis of the pump station, given the current and projected upstream conditions, will be completed to provide design data for replacement of the pump station.

23. **Buck Mountain Master Plan**

The purpose of this Master Plan is to consider alternatives for use of the 1300 acre property purchased in the 1980's for a water supply reservoir, which was never built. 600 acres are currently under deed restrictions to mitigate the environmental impacts of the expanded Ragged Mountain Dam. Development of the Buck Mountain Master Plan will consider past and current uses of the property, identify alternatives, and provide recommendations for strategic use of the property into the future.

24. **MC Facilities Master Plan**

The majority of the Moores Creek Water Resource Recovery Facility was constructed in the early 1980's. At the time, the plant layout was developed with space held open for future process expansion. With the Enhanced Nutrient Removal (ENR) project in 2009, the operation and layout of the plant was fundamentally altered, as needed to meet the new regulation. The project did anticipate the need for future expansion and some of the processes have readily available space. However, a full expansion plan was not developed at the time. As identified in the Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. As such, this project will serve to evaluate and plan for future space and process needs to accommodate capacity expansion and/or anticipated regulatory changes.

25. **SRR to RMR Pipeline – Pretreatment Pilot Study**

As part of the SRR to RMR Pipeline project, the impact of sending raw water from the SRR to RMR has been previously study and a significant amount of pretreatment was initially identified as being needed to avoid reducing the quality of the raw water contained within the RMR. With the pipeline easement acquisition process well underway and additional information now available associated with the proposed timing of this overall project based on water demand projections, this intent of this project is to update the pretreatment needs anticipated.

Other Significant Projects

26. Urgent and Emergency Repairs

- South Rivanna Dam Apron and River Bank Repairs

  Intense rainfall between May 30-31, 2018 resulted in extensive flooding throughout Charlottesville and parts of Albemarle County, with flows over the South Fork Rivanna Dam reaching more than 7 feet over the spillway crest at its peak. Staff has inspected the dam and abutments to determine the extent of damage resulting from the extreme flooding. Although there is no discernible damage to the dam itself, staff found erosion damage to the north downstream river bank and substantial displacement of large stone downstream of the dam to form a rock dam and pool below the north apron. Additionally, some damage to concrete structures on both aprons was noted, including possible creation of voids beneath the concrete and loss of concrete joint filler. Repairs to the river bank and removal of the rock dam were completed June 3-7, 2019 under RWSA's on-call construction contract.

- Urban Water Line Valve and Blow-off Repair

  During its routine inspections of the Water System, the Maintenance Department discovered a blowoff (drain) valve along the Urban Waterline (UWL-017) that had significant leakage. In addition, during one of the numerous heavy rain events received in 2018, the water in the creek adjacent to the drain line rose, eroding the area around the drain line and causing the headwall to become disconnected from the end of the pipe. Staff will be coordinating internally to confirm the overall scope of the project, including whether the drain line will need to be further reinforced or restrained.

27. Interceptor Sewer and Manhole Repair

Results from sewer flow monitoring and modeling under the Comprehensive Sanitary Sewer Study provided awareness to specific inflow and infiltration (I&I) concerns in the collection system and resulted in strengthened commitments from the City, ACSA and RWSA to continue professional engineering services to aid in the rehabilitation and repair of the sewer collection system. Engineering services will be used for sewer infrastructure condition assessments and the development of a sewer rehabilitation bid package for the procurement of a contractor to perform the recommended rehabilitation work.

28. Security Enhancements

As required by the Federal Bioterrorism Act of 2002 and the American Water Infrastructure Act of 2018, water utilities must conduct Vulnerability Assessments and have Emergency Response Plans. RWSA recently completed an updated Risk Assessment of its water system in collaboration with the Albemarle County Service Authority (ACSA), City of Charlottesville (City), and University of

Virginia (UVA). A number of security improvements that could be applied to both the water and wastewater systems were identified. The purpose of this project will be to install security improvements at RWSA facilities including additional security gate and fencing components, vehicle bollards, facility signage, camera system enhancements, additional security lighting, intrusion detection systems, door and window hardening, installation of industrial strength locks, communication technology and cable hardening, and an enhanced access control program.

RWSA Engineering staff held a meeting with Operations staff to discuss overall project needs and priorities in October 2018. Meetings with ACSA and City staff were held in Fall/Winter 2018-2019 to discuss how access control and intrusion detection systems have been implemented into to the day-to-day operations of the two utilities. A Request for Proposal (RFP) for an Implementer to facilitate selection of an access control system, confirmation of design requirements based upon RWSA's facilities and project goals, and installation of the selected system was issued on June 6, 2019. RWSA conducted a Pre-Proposal Meeting on June 14, 2019, and proposals were opened on June 27, 2019. Interviews were conducted on July 15-16, 2019, and a Contract Award Recommendation was approved by the Board on July 23, 2019. Access Control System Installation at MCAWRRF began in March 2020.

RIVANNA WATER & SEWER AUTHORITY
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www.rivanna.org

MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING & MAINTENANCE

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: WHOLESALE METERING REPORT FOR JULY 2020

DATE: AUGUST 25, 2020

The monthly and average daily Urban water system usages by the City and the ACSA for July 2020 were as follows:

	Month	***Daily Average***	
City Usage (gal)	145,788,528	4,702,856	**43.6%**
ACSA Usage (gal)	188,544,232	6,082,072	**56.4%**
Total (gal)	**334,332,760**	**10,784,928**	

The *RWSA Wholesale Metering Administrative and Implementation Policy* requires that water use be measured based upon the annual average daily water demand of the City and ACSA over the trailing twelve (12) consecutive month period. The *Water Cost Allocation Agreement (2012)* established a maximum water allocation for each party. If the annual average water usage of either party exceeds this value, a financial true-up would be required for the debt service charges related to the Ragged Mountain Dam and the SRR-RMR Pipeline projects. Below are graphs showing the calculated monthly water usage by each party, the trailing twelve-month average (extended back to August 2019*), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA).

Notes:
*Usage data through October 2019 are based on retail metered flows due to the unavailability of wholesale metering data. Data shown from November 2019 forward represents the usage calculated through the RWSA Wholesale Metering program.

Meter Site 26 (located in Seminole Trail) and Site 1 (Pepsi Place) are currently experiencing reporting issues, so data for those sites for July 2020 was calculated using the average of the prior three months of available data, in accordance with the *RWSA Wholesale Metering Administrative and Implementation Policy*. New meters have been ordered and are expected to be installed in August 2020.

Figure 1: City of Charlottesville Monthly Water Usage and Allocation

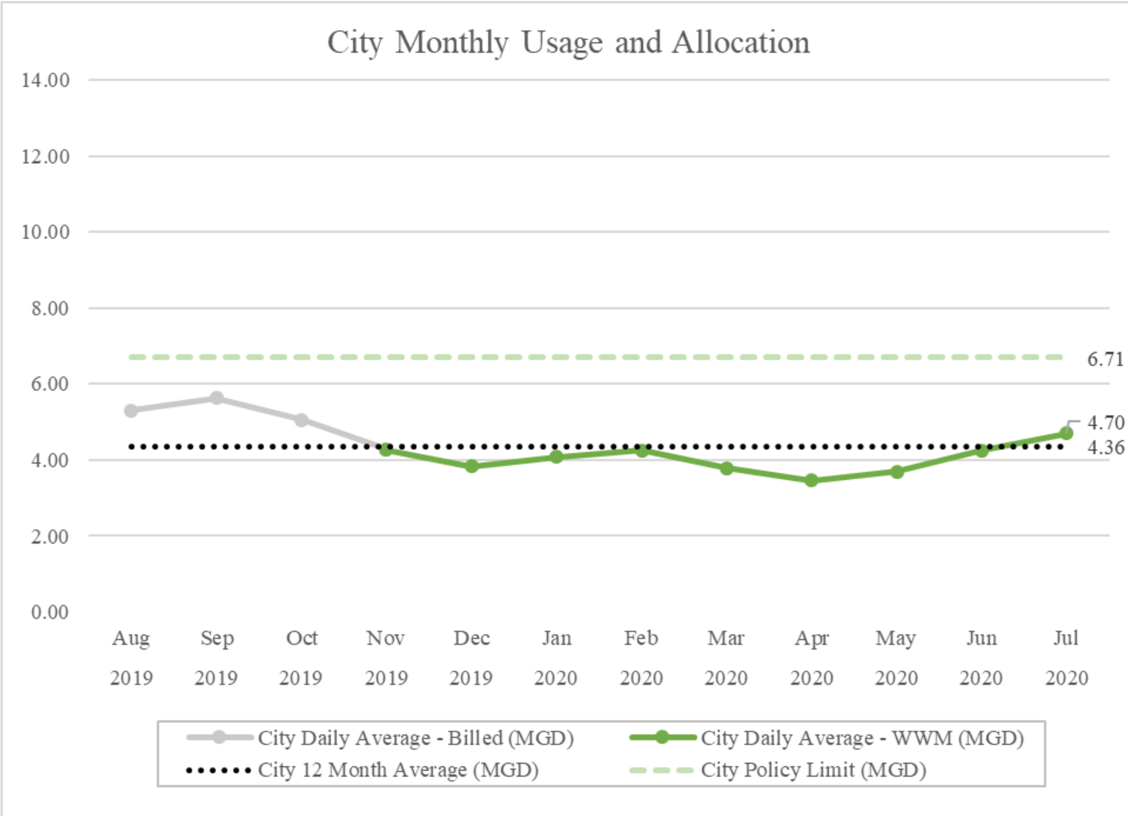
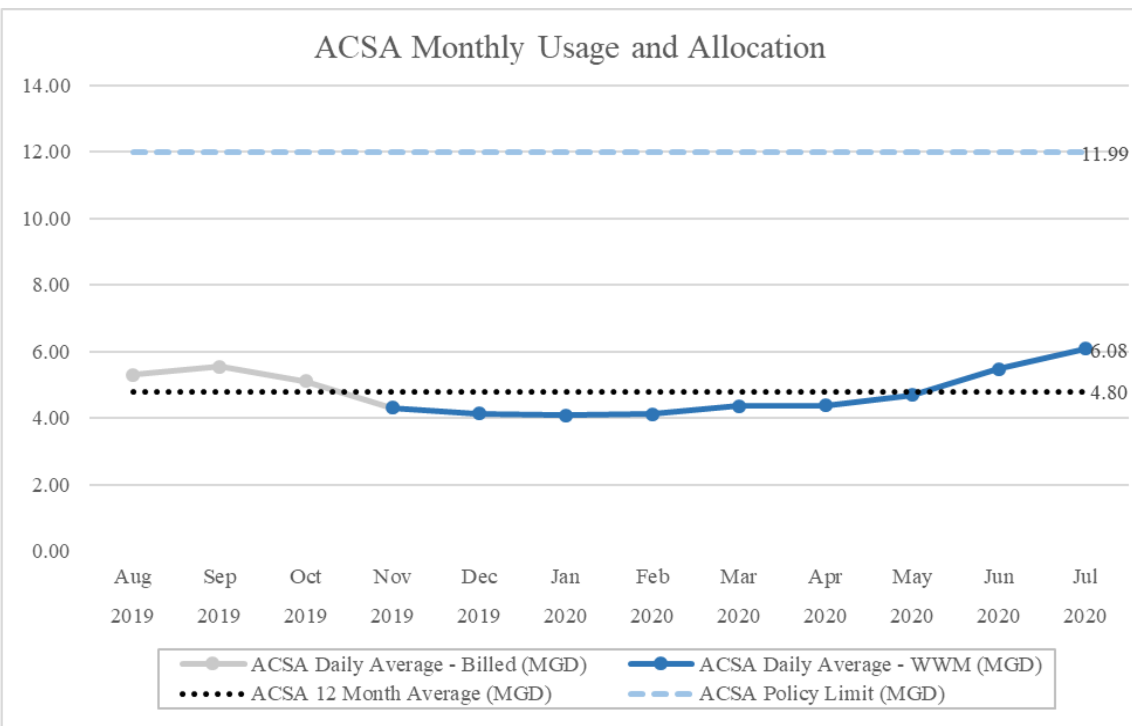


Figure 2: Albemarle County Service Authority Monthly Water Usage and Allocation



RIVANNA AUTHORITIES
RIVANNA SOLID WASTE AUTHORITY
RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane
Charlottesville, Virginia 22902-9016
434.977.2970
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MEMORANDUM

TO:	**RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS** **RIVANNA SOLID WASTE AUTHORITY**
FROM:	**LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION** **BETSY NEMETH, HUMAN RESOURCES MANAGER**
REVIEWED:	**BILL MAWYER, EXECUTIVE DIRECTOR**
SUBJECT:	**APPROVAL OF FLEXIBLE BENEFITS “CAFETERIA PLAN”**
DATE:	**AUGUST 25, 2020**

As of July 1, 2020, the Authorities are changing the administrator of our flexible spending plans to “Flexible Benefits Administrators”, and the attached “Cafeteria Plan” takes this change of administrator into account. Flexible Spending Accounts are funded through pre-tax deductions from an employee’s pay, and in order for the deductions to be considered pre-tax, a “cafeteria plan” of benefits must be in place and adopted by the Board of Directors.

A cafeteria plan is a separate written plan maintained by an employer for employees that meets the specific requirements and regulations of section 125 of the Internal Revenue Code. It provides participants an opportunity to receive certain benefits on a pretax basis. The cafeteria plan specifically describes the benefits plans and establishes rules of eligibility and elections. Employer contributions to the cafeteria plan are usually made pursuant to salary reduction agreements between the employer and the employee in which the employee agrees to contribute a portion of his or her salary on a pre-tax basis to pay for the qualified benefits. Salary reduction contributions are not actually or constructively received by the participant. Therefore, those contributions are not considered wages for federal income tax purposes. In addition, those sums generally are not subject to federal Social Security (FICA) and Unemployment (FUTA) taxes.

Board Action Requested

Approve the amended Flexible Benefits “Cafeteria Plan”.

Attachments

RIVANNA WATER AND SEWER AUTHORITY
FLEXIBLE BENEFIT PLAN

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RIVANNA WATER AND SEWER AUTHORITY
FLEXIBLE BENEFIT PLAN

INTRODUCTION

The Employer has amended this Plan effective July 1, 2020, to recognize the contribution made to the Employer by its Employees. Its purpose is to reward them by providing benefits for those Employees who shall qualify hereunder and their Dependents and beneficiaries. The concept of this Plan is to allow Employees to choose among different types of benefits based on their own particular goals, desires and needs. This Plan is a restatement of a Plan which was originally effective on January 1, 2006. The Plan shall be known as Rivanna Water and Sewer Authority Flexible Benefit Plan (the "Plan").

The intention of the Employer is that the Plan qualify as a "Cafeteria Plan" within the meaning of Section 125 of the Internal Revenue Code of 1986, as amended, and that the benefits which an Employee elects to receive under the Plan be excludable from the Employee's income under Section 125(a) and other applicable sections of the Internal Revenue Code of 1986, as amended.

ARTICLE I
DEFINITIONS

1.1 **"Administrator"** means the Employer unless another person or entity has been designated by the Employer pursuant to Section 9.1 to administer the Plan on behalf of the Employer. If the Employer is the Administrator, the Employer may appoint any person, including, but not limited to, the Employees of the Employer, to perform the duties of the Administrator. Any person so appointed shall signify acceptance by filing written acceptance with the Employer. Upon the resignation or removal of any individual performing the duties of the Administrator, the Employer may designate a successor.

1.2 **"Affiliated Employer"** means the Employer and any corporation which is a member of a controlled group of corporations (as defined in Code Section 414(b)) which includes the Employer; any trade or business (whether or not incorporated) which is under common control (as defined in Code Section 414(c)) with the Employer; any organization (whether or not incorporated) which is a member of an affiliated service group (as defined in Code Section 414(m)) which includes the Employer; and any other entity required to be aggregated with the Employer pursuant to Treasury regulations under Code Section 414(o).

1.3 **"Benefit"** or **"Benefit Options"** means any of the optional benefit choices available to a Participant as outlined in Section 4.1.

1.4 **"Cafeteria Plan Benefit Dollars"** means the amount available to Participants to purchase Benefit Options as provided under Section 4.1. Each dollar contributed to this Plan shall be converted into one Cafeteria Plan Benefit Dollar.

1.5 **"Code"** means the Internal Revenue Code of 1986, as amended or replaced from time to time.

1.6 **"Compensation"** means the amounts received by the Participant from the Employer during a Plan Year.

1.7 **"Dependent"** means any individual who qualifies as a dependent under an Insurance Contract for purposes of coverage under that Contract only or under Code Section 152 (as modified by Code Section 105(b)).

"Dependent" shall include any Child of a Participant who is covered under an Insurance Contract, as defined in the Contract, or under the Health Flexible Spending Account or as allowed by reason of the Affordable Care Act.

For purposes of the Health Flexible Spending Account, a Participant's "Child" includes his/her natural child, stepchild, foster child, adopted child, or a child placed with the Participant for adoption. A Participant's Child will be an eligible Dependent until reaching the limiting age of 26, without regard to student status, marital status, financial dependency or residency status with the Employee or any other person. When the child reaches the applicable limiting age, coverage will end at the end of the calendar year.

The phrase "placed for adoption" refers to a child whom the Participant intends to adopt, whether or not the adoption has become final, who has not attained the age of 18 as of the date of such placement for adoption. The term "placed" means the assumption and retention by such Employee of a legal obligation for total or partial support of the child in anticipation of adoption of the child. The child must be available for adoption and the legal process must have commenced.

1.8 **"Effective Date"** means January 1, 2006.

1.9 **"Election Period"** means the period immediately preceding the beginning of each Plan Year established by the Administrator, such period to be applied on a uniform and nondiscriminatory basis for all Employees and Participants. However, an Employee's initial Election Period shall be determined pursuant to Section 5.1.

1.10 **"Eligible Employee"** means any Employee who has satisfied the provisions of Section 2.1.

An individual shall not be an "Eligible Employee" if such individual is not reported on the payroll records of the Employer as a common law employee. In particular, it is expressly intended that individuals not treated as common law employees by the

Employer on its payroll records are not "Eligible Employees" and are excluded from Plan participation even if a court or administrative agency determines that such individuals are common law employees and not independent contractors.

However, any Employee who is a "part-time" Employee shall not be eligible to participate in this Plan. A "part-time" Employee is any Employee who works, or is expected to work on a regular basis, less than 30 hours a week and is designated as a part-time Employee on the Employer's personnel records.

1.11 **"Employee"** means any person who is employed by the Employer. The term Employee shall include leased employees within the meaning of Code Section 414(n)(2).

1.12 **"Employer"** means Rivanna Water and Sewer Authority and any successor which shall maintain this Plan; and any predecessor which has maintained this Plan. In addition, where appropriate, the term Employer shall include any Participating, Affiliated or Adopting Employer.

1.13 **"Grace Period"** means, with respect to any Plan Year, the time period ending on the fifteenth day of the third calendar month after the end of such Plan Year, during which Employment-Related Dependent Care Expenses incurred by a Participant will be deemed to have been incurred during such Plan Year.

1.14 **"Insurance Contract"** means any contract issued by an Insurer underwriting a Benefit.

1.15 **"Insurance Premium Payment Plan"** means the plan of benefits contained in Section 4.1 of this Plan, which provides for the payment of Premium Expenses.

1.16 **"Insurer"** means any insurance company that underwrites a Benefit under this Plan.

1.17 **"Key Employee"** means an Employee described in Code Section 416(i)(1) and the Treasury regulations thereunder.

1.18 **"Participant"** means any Eligible Employee who elects to become a Participant pursuant to Section 2.3 and has not for any reason become ineligible to participate further in the Plan.

1.19 **"Plan"** means this instrument, including all amendments thereto.

1.20 **"Plan Year"** means the 12-month period beginning July 1 and ending June 30. The Plan Year shall be the coverage period for the Benefits provided for under this Plan. In the event a Participant commences participation during a Plan Year, then the initial coverage period shall be that portion of the Plan Year commencing on such Participant's date of entry and ending on the last day of such Plan Year.

1.21 **"Premium Expenses"** or **"Premiums"** mean the Participant's cost for the Benefits described in Section 4.1.

1.22 **"Premium Expense Reimbursement Account"** means the account established for a Participant pursuant to this Plan to which part of his Cafeteria Plan Benefit Dollars may be allocated and from which Premiums of the Participant may be paid or reimbursed. If more than one type of insured Benefit is elected, sub-accounts shall be established for each type of insured Benefit.

1.23 **"Salary Redirection"** means the contributions made by the Employer on behalf of Participants pursuant to Section 3.1. These contributions shall be converted to Cafeteria Plan Benefit Dollars and allocated to the funds or accounts established under the Plan pursuant to the Participants' elections made under Article V.

1.24 **"Salary Redirection Agreement"** means an agreement between the Participant and the Employer under which the Participant agrees to reduce his Compensation or to forego all or part of the increases in such Compensation and to have such amounts contributed by the Employer to the Plan on the Participant's behalf. The Salary Redirection Agreement shall apply only to Compensation that has not been actually or constructively received by the Participant as of the date of the agreement (after taking this Plan and Code Section 125 into account) and, subsequently does not become currently available to the Participant.

1.25 **"Spouse"** means spouse as determined under Federal law.

ARTICLE II
PARTICIPATION

2.1 ELIGIBILITY

Any Eligible Employee shall be eligible to participate hereunder on the first of the month following 30 days after his initial date of employment with the Employer. However, any Eligible Employee who was a Participant in the Plan on the effective date of this amendment shall continue to be eligible to participate in the Plan.

2.2 EFFECTIVE DATE OF PARTICIPATION

An Eligible Employee shall become a Participant effective as of the first day of the pay period coinciding with or next following the date on which he met the eligibility requirements of Section 2.1.

2.3 APPLICATION TO PARTICIPATE

An Employee who is eligible to participate in this Plan shall, during the applicable Election Period, complete an application to participate in a manner set forth by the Administrator. The election shall be irrevocable until the end of the applicable Plan Year unless the Participant is entitled to change his Benefit elections pursuant to Section 5.4 hereof.

An Eligible Employee shall also be required to complete a Salary Redirection Agreement during the Election Period for the Plan Year during which he wishes to participate in this Plan. Any such Salary Redirection Agreement shall be effective for the first pay period beginning on or after the Employee's effective date of participation pursuant to Section 2.2.

2.4 TERMINATION OF PARTICIPATION

A Participant shall no longer participate in this Plan upon the occurrence of any of the following events:

(a) **Termination of employment.** The Participant's termination of employment, subject to the provisions of Section 2.6;

(b) **Change in employment status.** The end of the Plan Year during which the Participant became a limited Participant because of a change in employment status pursuant to Section 2.5;

(c) **Death.** The Participant's death, subject to the provisions of Section 2.7; or

(d) **Termination of the plan.** The termination of this Plan, subject to the provisions of Section 10.2.

2.5 CHANGE OF EMPLOYMENT STATUS

If a Participant ceases to be eligible to participate because of a change in employment status or classification (other than through termination of employment), the Participant shall become a limited Participant in this Plan for the remainder of the Plan Year in which such change of employment status occurs. As a limited Participant, no further Salary Redirection may be made on behalf of the Participant, and, except as otherwise provided herein, all further Benefit elections shall cease, subject to the limited Participant's right to continue coverage under any Insurance Contracts. However, any balances in the limited Participant's Dependent Care Flexible Spending Account may be used during such Plan Year to reimburse the limited Participant for any allowable Employment-Related Dependent Care incurred during the Plan Year. Subject to the provisions of Section 2.6, if the limited Participant later becomes an Eligible Employee, then the limited Participant may again become a full Participant in this Plan, provided he otherwise satisfies the participation requirements set forth in this Article II as if he were a new Employee and made an election in accordance with Section 5.1.

2.6 TERMINATION OF EMPLOYMENT

If a Participant's employment with the Employer is terminated for any reason other than death, his participation in the Benefit Options provided under Section 4.1 shall be governed in accordance with the following:

(a) **Insurance Benefit.** With regard to Benefits which are insured, the Participant's participation in the Plan shall cease, subject to the Participant's right to continue coverage under any Insurance Contract for which premiums have already been paid.

(b) **Dependent Care FSA.** With regard to the Dependent Care Flexible Spending Account, the Participant's participation in the Plan shall cease and no further Salary Redirection contributions shall be made. However, such Participant may submit claims for employment related Dependent Care Expense reimbursements for claims incurred through the remainder of the Plan Year in which such termination occurs and submitted within 90 days after the end of the Plan Year, based on the level of the Participant's Dependent Care Flexible Spending Account as of the date of termination.

(c) **COBRA applicability.** With regard to the Health Flexible Spending Account, the Participant may submit claims for expenses that were incurred during the portion of the Plan Year before the end of the period for which payments to the Health Flexible Spending Account have already been made. Thereafter, the health benefits under this Plan including the Health Flexible Spending Account shall be applied and administered consistent with such further rights a Participant and his Dependents may be entitled to pursuant to Code Section 4980B and Section 11.14 of the Plan.

2.7 DEATH

If a Participant dies, his participation in the Plan shall cease. However, such Participant's spouse or Dependents may submit claims for expenses or benefits for the remainder of the Plan Year or until the Cafeteria Plan Benefit Dollars allocated to each specific benefit are exhausted. In no event may reimbursements be paid to someone who is not a spouse or Dependent. If the Plan is subject to the provisions of Code Section 4980B, then those provisions and related regulations shall apply for purposes of the Health Flexible Spending Account.

ARTICLE III
CONTRIBUTIONS TO THE PLAN

3.1 SALARY REDIRECTION

Benefits under the Plan shall be financed by Salary Redirections sufficient to support Benefits that a Participant has elected hereunder and to pay the Participant's Premium Expenses. The salary administration program of the Employer shall be revised to allow each Participant to agree to reduce his pay during a Plan Year by an amount determined necessary to purchase the elected Benefit Options. The amount of such Salary Redirection shall be specified in the Salary Redirection Agreement and shall be applicable for a Plan Year. Notwithstanding the above, for new Participants, the Salary Redirection Agreement shall only be applicable from the first day of the pay period following the Employee's entry date up to and including the last day of the Plan Year. These contributions shall be converted to Cafeteria Plan Benefit Dollars and allocated to the funds or accounts established under the Plan pursuant to the Participants' elections made under Article IV.

Any Salary Redirection shall be determined prior to the beginning of a Plan Year (subject to initial elections pursuant to Section 5.1) and prior to the end of the Election Period and shall be irrevocable for such Plan Year. However, a Participant may revoke a Benefit election or a Salary Redirection Agreement after the Plan Year has commenced and make a new election with respect to the remainder of the Plan Year, if both the revocation and the new election are on account of and consistent with a change in status and such other permitted events as determined under Article V of the Plan and consistent with the rules and regulations of the Department of the Treasury. Salary Redirection amounts shall be contributed on a pro rata basis for each pay period during the Plan Year. All individual Salary Redirection Agreements are deemed to be part of this Plan and incorporated by reference hereunder.

3.2 APPLICATION OF CONTRIBUTIONS

As soon as reasonably practical after each payroll period, the Employer shall apply the Salary Redirection to provide the Benefits elected by the affected Participants. Any contribution made or withheld for the Health Flexible Spending Account or Dependent Care Flexible Spending Account shall be credited to such fund or account. Amounts designated for the Participant's Premium Expense Reimbursement Account shall likewise be credited to such account for the purpose of paying Premium Expenses.

3.3 PERIODIC CONTRIBUTIONS

Notwithstanding the requirement provided above and in other Articles of this Plan that Salary Redirections be contributed to the Plan by the Employer on behalf of an Employee on a level and pro rata basis for each payroll period, the Employer and Administrator may implement a procedure in which Salary Redirections are contributed throughout the Plan Year on a periodic basis that is not pro rata for each payroll period. However, with regard to the Health Flexible Spending Account, the payment schedule for the required contributions may not be based on the rate or amount of reimbursements during the Plan Year.

ARTICLE IV
BENEFITS

4.1 BENEFIT OPTIONS

Each Participant may elect any one or more of the following optional Benefits:

(1) Health Flexible Spending Account

(2) Dependent Care Flexible Spending Account

(3) Insurance Premium Payment Plan

- (i) Health Insurance Benefit
- (ii) Dental Insurance Benefit
- (iii) Group-Term Life Insurance Benefit
- (iv) Disability Insurance Benefit

(v) Vision Insurance Benefit

(4) Health Savings Account Benefit

4.2 HEALTH FLEXIBLE SPENDING ACCOUNT BENEFIT

Each Participant may elect to participate in the Health Flexible Spending Account option, in which case Article VI shall apply.

4.3 DEPENDENT CARE FLEXIBLE SPENDING ACCOUNT BENEFIT

Each Participant may elect to participate in the Dependent Care Flexible Spending Account option, in which case Article VII shall apply.

4.4 HEALTH INSURANCE BENEFIT

(a) **Coverage for Participant and Dependents.** Each Participant may elect to be covered under a health Insurance Contract for the Participant, his or her Spouse, and his or her Dependents.

(b) **Employer selects contracts.** The Employer may select suitable health Insurance Contracts for use in providing this health insurance benefit, which policies will provide uniform benefits for all Participants electing this Benefit.

(c) **Contract incorporated by reference.** The rights and conditions with respect to the benefits payable from such health Insurance Contract shall be determined therefrom, and such Insurance Contract shall be incorporated herein by reference.

4.5 DENTAL INSURANCE BENEFIT

(a) **Coverage for Participant and/or Dependents.** Each Participant may elect to be covered under the Employer's dental Insurance Contract. In addition, the Participant may elect either individual or family coverage under such Insurance Contract.

(b) **Employer selects contracts.** The Employer may select suitable dental Insurance Contracts for use in providing this dental insurance benefit, which policies will provide uniform benefits for all Participants electing this Benefit.

(c) **Contract incorporated by reference.** The rights and conditions with respect to the benefits payable from such dental Insurance Contract shall be determined therefrom, and such dental Insurance Contract shall be incorporated herein by reference.

4.6 GROUP-TERM LIFE INSURANCE BENEFIT

(a) **Coverage for Participant only.** Each Participant may elect to be covered under the Employer's group-term life Insurance Contract.

(b) **Employer selects contracts.** The Employer may select suitable group-term life Insurance Contracts for use in providing this group-term life insurance benefit, which policies will provide benefits for all Participants electing this Benefit on a uniform basis.

(c) **Contract incorporated by reference.** The rights and conditions with respect to the benefits payable from such group-term life Insurance Contract shall be determined therefrom, and such group-term life Insurance Contract shall be incorporated herein by reference.

4.7 DISABILITY INSURANCE BENEFIT

(a) **Coverage for Participant and/or Dependents.** Each Participant may elect to be covered under the Employer's disability Insurance Contract.

(b) **Long term and/or short term coverage selected by Employer.** The Employer may select suitable disability Insurance Contracts for use in providing this disability Benefit. The disability Insurance Contracts may provide for long-term or short-term coverage.

(c) **Contract incorporated by reference.** The rights and conditions with respect to the Benefits payable from such disability Insurance Contract shall be determined therefrom, and such disability Insurance Contract shall be incorporated herein by reference.

4.8 VISION INSURANCE BENEFIT

(a) **Coverage for Participant and/or Dependents.** Each Participant may elect to be covered under the Employer's vision Insurance Contract. In addition, the Participant may elect either individual or family coverage.

(b) **Employer selects contracts.** The Employer may select suitable vision Insurance Contracts for use in providing this vision insurance benefit, which policies will provide uniform benefits for all Participants electing this Benefit.

(c) **Contract incorporated by reference.** The rights and conditions with respect to the benefits payable from such vision Insurance Contract shall be determined therefrom, and such vision Insurance Contract shall be incorporated herein by reference.

4.9 HEALTH SAVINGS ACCOUNT BENEFIT

Each Participant may elect to have a portion of his Salary Redirections contributed to a Health Savings Account, as defined in Code Section 223. The amounts contributed shall be subject to the terms of the Health Savings Account as established.

4.10 NONDISCRIMINATION REQUIREMENTS

(a) **Intent to be nondiscriminatory.** It is the intent of this Plan to provide benefits to a classification of employees which the Secretary of the Treasury finds not to be discriminatory in favor of the group in whose favor discrimination may not occur under Code Section 125.

(b) **25% concentration test.** It is the intent of this Plan not to provide qualified benefits as defined under Code Section 125 to Key Employees in amounts that exceed 25% of the aggregate of such Benefits provided for all Eligible Employees under the Plan. For purposes of the preceding sentence, qualified benefits shall not include benefits which (without regard to this paragraph) are includible in gross income.

(c) **Adjustment to avoid test failure.** If the Administrator deems it necessary to avoid discrimination or possible taxation to Key Employees or a group of employees in whose favor discrimination may not occur in violation of Code Section 125, it may, but shall not be required to, reject any election or reduce contributions or non-taxable Benefits in order to assure compliance with the Code and regulations. Any act taken by the Administrator shall be carried out in a uniform and nondiscriminatory manner. With respect to any affected Participant who has had Benefits reduced pursuant to this Section, the reduction shall be made proportionately among Health Flexible Spending Account Benefits and Dependent Care Flexible Spending Account Benefits, and once all these Benefits are expended, proportionately among insured Benefits. Contributions which are not utilized to provide Benefits to any Participant by virtue of any administrative act under this paragraph shall be forfeited and deposited into the benefit plan surplus.

ARTICLE V
PARTICIPANT ELECTIONS

5.1 INITIAL ELECTIONS

An Employee who meets the eligibility requirements of Section 2.1 on the first day of, or during, a Plan Year may elect to participate in this Plan for all or the remainder of such Plan Year, provided he elects to do so on or before his effective date of participation pursuant to Section 2.2.

5.2 SUBSEQUENT ANNUAL ELECTIONS

During the Election Period prior to each subsequent Plan Year, each Participant shall be given the opportunity to elect, on an election of benefits form to be provided by the Administrator, which Benefit options he wishes to select. Any such election shall be effective for any Benefit expenses incurred during the Plan Year which follows the end of the Election Period. With regard to subsequent annual elections, the following options shall apply:

(a) A Participant or Employee who failed to initially elect to participate may elect different or new Benefits under the Plan during the Election Period;

(b) A Participant may terminate his participation in the Plan by notifying the Administrator in writing during the Election Period that he does not want to participate in the Plan for the next Plan Year;

(c) An Employee who elects not to participate for the Plan Year following the Election Period will have to wait until the next Election Period before again electing to participate in the Plan, except as provided for in Section 5.4.

5.3 FAILURE TO ELECT

With regard to Benefits available under the Plan for which no Premium Expenses apply, any Participant who fails to complete a new benefit election form pursuant to Section 5.2 by the end of the applicable Election Period shall be deemed to have elected not to participate in the Plan for the upcoming Plan Year. No further Salary Redirections shall therefore be authorized or made for the subsequent Plan Year for such Benefits.

With regard to Benefits available under the Plan for which Premium Expenses apply, any Participant who fails to complete a new benefit election form pursuant to Section 5.2 by the end of the applicable Election Period shall be deemed to have made the same Benefit elections as are then in effect for the current Plan Year. The Participant shall also be deemed to have elected Salary Redirection in an amount necessary to purchase such Benefit options.

5.4 CHANGE IN STATUS

(a) **Change in status defined.** Any Participant may change a Benefit election after the Plan Year (to which such election relates) has commenced and make new elections with respect to the remainder of such Plan Year if, under the facts and circumstances, the changes are necessitated by and are consistent with a change in status which is acceptable under rules and regulations adopted by the Department of the Treasury, the provisions of which are incorporated by reference. Notwithstanding anything herein to the contrary, if the rules and regulations conflict, then such rules and regulations shall control.

In general, a change in election is not consistent if the change in status is the Participant's divorce, annulment or legal separation from a Spouse, the death of a Spouse or Dependent, or a Dependent ceasing to satisfy the eligibility requirements for coverage, and the Participant's election under the Plan is to cancel accident or health insurance coverage for any individual other than the one involved in such event. In addition, if the Participant, Spouse or Dependent gains or loses eligibility for coverage, then a Participant's election under the Plan to cease or decrease coverage for that individual under the Plan corresponds with that change in status only if coverage for that individual becomes applicable or is increased under the family member plan.

Regardless of the consistency requirement, if the individual, the individual's Spouse, or Dependent becomes eligible for continuation coverage under the Employer's group health plan as provided in Code Section 4980B or any similar state law, then the individual may elect to increase payments under this Plan in order to pay for the continuation coverage. However, this does not apply for COBRA eligibility due to divorce, annulment or legal separation.

Any new election shall be effective at such time as the Administrator shall prescribe, but not earlier than the first pay period beginning after the election form is completed and returned to the Administrator. For the purposes of this subsection, a change in status shall only include the following events or other events permitted by Treasury regulations:

(1) Legal Marital Status: events that change a Participant's legal marital status, including marriage, divorce, death of a Spouse, legal separation or annulment;

(2) Number of Dependents: Events that change a Participant's number of Dependents, including birth, adoption, placement for adoption, or death of a Dependent;

(3) Employment Status: Any of the following events that change the employment status of the Participant, Spouse, or Dependent: termination or commencement of employment, a strike or lockout, commencement or return from an unpaid leave of absence, or a change in worksite. In addition, if the eligibility conditions of this Plan or other employee benefit plan of the Employer of the Participant, Spouse, or Dependent depend on the employment status of that individual and there is a change in that individual's employment status with the consequence that the individual becomes (or ceases to be) eligible under the plan, then that change constitutes a change in employment under this subsection;

(4) Dependent satisfies or ceases to satisfy the eligibility requirements: An event that causes the Participant's Dependent to satisfy or cease to satisfy the requirements for coverage due to attainment of age, student status, or any similar circumstance; and

(5) Residency: A change in the place of residence of the Participant, Spouse or Dependent, that would lead to a change in status (such as a loss of HMO coverage).

For the Dependent Care Flexible Spending Account, a Dependent becoming or ceasing to be a "Qualifying Dependent" as defined under Code Section 21(b) shall also qualify as a change in status.

Notwithstanding anything in this Section to the contrary, the gain of eligibility or change in eligibility of a child, as allowed under Code Sections 105(b) and 106, and guidance thereunder, shall qualify as a change in status.

(b) **Special enrollment rights.** Notwithstanding subsection (a), the Participants may change an election for group health coverage during a Plan Year and make a new election that corresponds with the special enrollment rights provided in Code Section 9801(f), including those authorized under the provisions of the Children's Health Insurance Program Reauthorization Act of 2009 (SCHIP); provided that such Participant meets the sixty (60) day notice requirement imposed by Code Section 9801(f) (or such longer period as may be permitted by the Plan and communicated to Participants). Such change shall take place on a prospective basis, unless otherwise required by Code Section 9801(f) to be retroactive.

(c) **Qualified Medical Support Order.** Notwithstanding subsection (a), in the event of a judgment, decree, or order (including approval of a property settlement) ("order") resulting from a divorce, legal separation, annulment, or change in legal custody which requires accident or health coverage for a Participant's child (including a foster child who is a Dependent of the Participant):

(1) The Plan may change an election to provide coverage for the child if the order requires coverage under the Participant's plan; or

(2) The Participant shall be permitted to change an election to cancel coverage for the child if the order requires the former Spouse to provide coverage for such child, under that individual's plan and such coverage is actually provided.

(d) **Medicare or Medicaid.** Notwithstanding subsection (a), a Participant may change elections to cancel accident or health coverage for the Participant or the Participant's Spouse or Dependent if the Participant or the Participant's Spouse or Dependent is enrolled in the accident or health coverage of the Employer and becomes entitled to coverage (i.e., enrolled) under Part A or Part B of the Title XVIII of the Social Security Act (Medicare) or Title XIX of the Social Security Act (Medicaid), other than coverage consisting solely of benefits under Section 1928 of the Social Security Act (the program for distribution of pediatric vaccines). If the Participant or the Participant's Spouse or Dependent who has been entitled to Medicaid or Medicare coverage loses eligibility, that individual may prospectively elect coverage under the Plan if a benefit package option under the Plan provides similar coverage.

(e) **Cost increase or decrease.** If the cost of a Benefit provided under the Plan increases or decreases during a Plan Year, then the Plan shall automatically increase or decrease, as the case may be, the Salary Redirections of all affected Participants for such Benefit. Alternatively, if the cost of a benefit package option increases significantly, the Administrator shall permit the affected Participants to either make corresponding changes in their payments or revoke their elections and, in lieu thereof, receive on a prospective basis coverage under another benefit package option with similar coverage, or drop coverage prospectively if there is no benefit package option with similar coverage.

A cost increase or decrease refers to an increase or decrease in the amount of elective contributions under the Plan, whether resulting from an action taken by the Participants or an action taken by the Employer.

(f) **Loss of coverage.** If the coverage under a Benefit is significantly curtailed or ceases during a Plan Year, affected Participants may revoke their elections of such Benefit and, in lieu thereof, elect to receive on a prospective basis coverage under another plan with similar coverage, or drop coverage prospectively if no similar coverage is offered.

(g) **Addition of a new benefit.** If, during the period of coverage, a new benefit package option or other coverage option is added, an existing benefit package option is significantly improved, or an existing benefit package option or other coverage option is eliminated, then the affected Participants may elect the newly-added option, or elect another option if an option has been eliminated prospectively and make corresponding election changes with respect to other benefit package options providing similar coverage. In addition, those Eligible Employees who are not participating in the Plan may opt to become Participants and elect the new or newly improved benefit package option.

(h) **Loss of coverage under certain other plans.** A Participant may make a prospective election change to add group health coverage for the Participant, the Participant's Spouse or Dependent if such individual loses group health coverage sponsored by a governmental or educational institution, including a state children's health insurance program under the Social Security Act, the Indian Health Service or a health program offered by an Indian tribal government, a state health benefits risk pool, or a foreign government group health plan.

(i) **Change of coverage due to change under certain other plans.** A Participant may make a prospective election change that is on account of and corresponds with a change made under the plan of a Spouse's, former Spouse's or Dependent's employer if (1) the cafeteria plan or other benefits plan of the Spouse's, former Spouse's or Dependent's employer permits its participants to make a change; or (2) the cafeteria plan permits participants to make an election for a period of coverage that is different from the period of coverage under the cafeteria plan of a Spouse's, former Spouse's or Dependent's employer.

(j) **Change in dependent care provider.** A Participant may make a prospective election change that is on account of and corresponds with a change by the Participant in the dependent care provider. The availability of dependent care services from a new childcare provider is similar to a new benefit package option becoming available. A cost change is allowable in the Dependent Care Flexible Spending Account only if the cost change is imposed by a dependent care provider who is not related to the Participant, as defined in Code Section 152(a)(1) through (8).

(k) **Health FSA cannot change due to insurance change.** A Participant shall not be permitted to change an election to the Health Flexible Spending Account as a result of a cost or coverage change under any health insurance benefits.

(l) **Health Savings Account changes.** With regard to the Health Savings Account Benefit specified in Section 4.9, a Participant who has elected to make elective contributions under such arrangement may modify or revoke the election prospectively, provided such change is consistent with Code Section 223 and the Treasury regulations thereunder.

(m) **Changes due to reduction in hours or enrollment in an Exchange Plan.** A Participant may prospectively revoke coverage under the group health plan (that is not a health Flexible Spending Account) which provides minimum essential coverage (as defined in Code §5000A(f)(1)) provided the following conditions are met:

Conditions for revocation due to reduction in hours of service:

(1) The Participant has been reasonably expected to average at least 30 hours of service per week and there is a change in that Participant's status so that the Participant will reasonably be expected to average less than 30 hours of service per week after the change, even if that reduction does not result in the Participant ceasing to be eligible under the group health plan; and

(2) The revocation of coverage under the group health plan corresponds to the intended enrollment of the Participant, and any related individuals who cease coverage due to the revocation, in another plan that provides minimum essential coverage with the new coverage effective no later than the first day of the second month following the month that includes the date the original coverage is revoked.

The Administrator may rely on the reasonable representation of the Participant who is reasonably expected to have an average of less than 30 hours of service per week for future periods that the Participant and related individuals have enrolled or intend to enroll in another plan that provides minimum essential coverage for new coverage that is effective no later than the first day of the second month following the month that includes the date the original coverage is revoked.

Conditions for revocation due to enrollment in a Qualified Health Plan:

(1) The Participant is eligible for a Special Enrollment Period to enroll in a Qualified Health Plan through a Marketplace (federal or state exchange) pursuant to guidance issued by the Department of Health and Human Services and any other applicable guidance, or the Participant seeks to enroll in a Qualified Health Plan through a Marketplace during the Marketplace's annual open enrollment period; and

(2) The revocation of the election of coverage under the group health plan corresponds to the intended enrollment of the Participant and any related individuals who cease coverage due to the revocation in a Qualified Health Plan through a Marketplace for new coverage that is effective beginning no later than the day immediately following the last day of the original coverage that is revoked.

The Administrator may rely on the reasonable representation of a Participant who has an enrollment opportunity for a Qualified Health Plan through a Marketplace that the Participant and related individuals have enrolled or intend to enroll in a Qualified Health Plan for new coverage that is effective beginning no later than the day immediately following the last day of the original coverage that is revoked.

ARTICLE VI
HEALTH FLEXIBLE SPENDING ACCOUNT

6.1 ESTABLISHMENT OF PLAN

This Health Flexible Spending Account is intended to qualify as a medical reimbursement plan under Code Section 105 and shall be interpreted in a manner consistent with such Code Section and the Treasury regulations thereunder. Participants who elect to participate in this Health Flexible Spending Account may submit claims for the reimbursement of Medical Expenses. All amounts reimbursed shall be periodically paid from amounts allocated to the Health Flexible Spending Account. Periodic payments reimbursing Participants from the Health Flexible Spending Account shall in no event occur less frequently than monthly.

6.2 DEFINITIONS

For the purposes of this Article and the Cafeteria Plan, the terms below have the following meaning:

(a) **"Health Flexible Spending Account"** means the account established for Participants pursuant to this Plan to which part of their Cafeteria Plan Benefit Dollars may be allocated and from which all allowable Medical Expenses incurred by a Participant, his or her Spouse and his or her Dependents may be reimbursed.

(b) **"Highly Compensated Participant"** means, for the purposes of this Article and determining discrimination under Code Section 105(h), a participant who is:

(1) one of the 5 highest paid officers;

(2) a shareholder who owns (or is considered to own applying the rules of Code Section 318) more than 10 percent in value of the stock of the Employer; or

(3) among the highest paid 25 percent of all Employees (other than exclusions permitted by Code Section 105(h)(3)(B) for those individuals who are not Participants).

(c) **"Medical Expenses"** means any expense for medical care within the meaning of the term "medical care" as defined in Code Section 213(d) and the rulings and Treasury regulations thereunder, and not otherwise used by the Participant as a deduction in determining his tax liability under the Code. "Medical Expenses" can be incurred by the Participant, his or her Spouse and his or her Dependents. "Incurred" means, with regard to Medical Expenses, when the Participant is provided with the medical care that gives rise to the Medical Expense and not when the Participant is formally billed or charged for, or pays for, the medical care.

A Participant may not be reimbursed for the cost of any medicine or drug that is not "prescribed" within the meaning of Code Section 106(f) or is not insulin.

A Participant may not be reimbursed for the cost of other health coverage such as premiums paid under plans maintained by the employer of the Participant's Spouse or individual policies maintained by the Participant or his Spouse or Dependent.

A Participant may not be reimbursed for "qualified long-term care services" as defined in Code Section 7702B(c).

(d) The definitions of Article I are hereby incorporated by reference to the extent necessary to interpret and apply the provisions of this Health Flexible Spending Account.

6.3 FORFEITURES

The amount in the Health Flexible Spending Account as of the end of any Plan Year (and after the processing of all claims for such Plan Year pursuant to Section 6.7 hereof, excluding any carryover) shall be forfeited and credited to the benefit plan surplus. In such event, the Participant shall have no further claim to such amount for any reason, subject to Section 8.2.

6.4 LIMITATION ON ALLOCATIONS

(a) Notwithstanding any provision contained in this Health Flexible Spending Account to the contrary, the maximum amount of salary reductions that may be allocated to the Health Flexible Spending Account by a Participant in or on account of any Plan Year is the statutory amount under Code Section 125(i)(2), as adjusted for increases in the cost of living. The cost of living adjustment in effect for a calendar year applies to any Plan Year beginning with or within such calendar year. The dollar increase in effect on January 1 of any calendar year shall be effective for the Plan Year beginning with or within such calendar year. For any short Plan Year, the limit shall be an amount equal to the limit for the calendar year in which the Plan Year begins multiplied by the ratio obtained by dividing the number of full months in the short Plan Year by twelve (12).

(b) **Participation in Other Plans.** All employers that are treated as a single employer under Code Sections 414(b), (c), or (m), relating to controlled groups and affiliated service groups, are treated as a single employer for purposes of the statutory limit. If a Participant participates in multiple cafeteria plans offering health flexible spending accounts maintained by members of a controlled group or affiliated service group, the Participant's total Health Flexible Spending Account contributions under all of the cafeteria plans are limited to the statutory limit (as adjusted). However, a Participant employed by two or more employers that are not members of the same controlled group may elect up to the statutory limit (as adjusted) under each Employer's Health Flexible Spending Account.

(c) **Carryover.** A Participant in the Health Flexible Spending Account may roll over up to $500.00 of unused amounts in the Health Flexible Spending Account remaining at the end of one Plan Year to the immediately following Plan Year. These amounts can be used during the following Plan Year for expenses incurred in that Plan Year. Amounts carried over do not affect the maximum amount of salary redirection contributions for the Plan Year to which they are carried over. Unused amounts are those remaining after expenses have been reimbursed during the runout period. These amounts may not be cashed out or converted to any other taxable or nontaxable benefit. Amounts in excess of $500.00 will be forfeited. The Plan is allowed, but not required, to treat claims as being paid first from the current year amounts, then from the carryover amounts.

6.5 NONDISCRIMINATION REQUIREMENTS

(a) **Intent to be nondiscriminatory.** It is the intent of this Health Flexible Spending Account not to discriminate in violation of the Code and the Treasury regulations thereunder.

(b) **Adjustment to avoid test failure.** If the Administrator deems it necessary to avoid discrimination under this Health Flexible Spending Account, it may, but shall not be required to, reject any elections or reduce contributions or Benefits in order to assure compliance with this Section. Any act taken by the Administrator under this Section shall be carried out in a uniform and nondiscriminatory manner. If the Administrator decides to reject any elections or reduce contributions or Benefits, it shall be done in the following manner. First, the Benefits designated for the Health Flexible Spending Account by the member of the group in whose favor discrimination may not occur pursuant to Code Section 105 that elected to contribute the highest amount to the fund for the Plan Year shall be reduced until the nondiscrimination tests set forth in this Section or the Code are satisfied, or until the amount designated for the fund equals the amount designated for the fund by the next member of the group in whose favor discrimination may not occur pursuant to Code Section 105 who has elected the second highest contribution to the Health Flexible Spending Account for the Plan Year. This process shall continue until the nondiscrimination tests set forth in this

Section or the Code are satisfied. Contributions which are not utilized to provide Benefits to any Participant by virtue of any administrative act under this paragraph shall be forfeited and credited to the benefit plan surplus.

6.6 COORDINATION WITH CAFETERIA PLAN

All Participants under the Cafeteria Plan are eligible to receive Benefits under this Health Flexible Spending Account. The enrollment under the Cafeteria Plan shall constitute enrollment under this Health Flexible Spending Account. In addition, other matters concerning contributions, elections and the like shall be governed by the general provisions of the Cafeteria Plan.

6.7 HEALTH FLEXIBLE SPENDING ACCOUNT CLAIMS

(a) **Expenses must be incurred during Plan Year.** All Medical Expenses incurred by a Participant, his or her Spouse and his or her Dependents during the Plan Year shall be reimbursed during the Plan Year subject to Section 2.6, even though the submission of such a claim occurs after his participation hereunder ceases; but provided that the Medical Expenses were incurred during the applicable Plan Year. Medical Expenses are treated as having been incurred when the Participant is provided with the medical care that gives rise to the medical expenses, not when the Participant is formally billed or charged for, or pays for the medical care.

(b) **Reimbursement available throughout Plan Year.** The Administrator shall direct the reimbursement to each eligible Participant for all allowable Medical Expenses, up to a maximum of the amount designated by the Participant for the Health Flexible Spending Account for the Plan Year. Reimbursements shall be made available to the Participant throughout the year without regard to the level of Cafeteria Plan Benefit Dollars which have been allocated to the fund at any given point in time. Furthermore, a Participant shall be entitled to reimbursements only for amounts in excess of any payments or other reimbursements under any health care plan covering the Participant and/or his Spouse or Dependents.

(c) **Payments.** Reimbursement payments under this Plan shall be made directly to the Participant. However, in the Administrator's discretion, payments may be made directly to the service provider. The application for payment or reimbursement shall be made to the Administrator on an acceptable form within a reasonable time of incurring the debt or paying for the service. The application shall include a written statement from an independent third party stating that the Medical Expense has been incurred and the amount of such expense. Furthermore, the Participant shall provide a written statement that the Medical Expense has not been reimbursed or is not reimbursable under any other health plan coverage and, if reimbursed from the Health Flexible Spending Account, such amount will not be claimed as a tax deduction. The Administrator shall retain a file of all such applications.

(d) **Claims for reimbursement.** Claims for the reimbursement of Medical Expenses incurred in any Plan Year shall be paid as soon after a claim has been filed as is administratively practicable; provided however, that if a Participant fails to submit a claim within 90 days after the end of the Plan Year, those Medical Expense claims shall not be considered for reimbursement by the Administrator.

6.8 DEBIT AND CREDIT CARDS

Participants may, subject to a procedure established by the Administrator and applied in a uniform nondiscriminatory manner, use debit and/or credit (stored value) cards ("cards") provided by the Administrator and the Plan for payment of Medical Expenses, subject to the following terms:

(a) **Card only for medical expenses.** Each Participant issued a card shall certify that such card shall only be used for Medical Expenses. The Participant shall also certify that any Medical Expense paid with the card has not already been reimbursed by any other plan covering health benefits and that the Participant will not seek reimbursement from any other plan covering health benefits.

(b) **Card issuance.** Such card shall be issued upon the Participant's Effective Date of Participation and reissued for each Plan Year the Participant remains a Participant in the Health Flexible Spending Account. Such card shall be automatically cancelled upon the Participant's death or termination of employment, or if such Participant has a change in status that results in the Participant's withdrawal from the Health Flexible Spending Account.

(c) **Maximum dollar amount available.** The dollar amount of coverage available on the card shall be the amount elected by the Participant for the Plan Year. The maximum dollar amount of coverage available shall be the maximum amount for the Plan Year as set forth in Section 6.4.

(d) **Only available for use with certain service providers.** The cards shall only be accepted by such merchants and service providers as have been approved by the Administrator following IRS guidelines.

(e) **Card use.** The cards shall only be used for Medical Expense purchases at these providers, including, but not limited to, the following:

(1) Co-payments for doctor and other medical care;

(2) Purchase of drugs prescribed by a health care provider, including, if permitted by the Administrator, over-the-counter medications as allowed under IRS regulations;

(3) Purchase of medical items such as eyeglasses, syringes, crutches, etc.

(f) **Substantiation.** Such purchases by the cards shall be subject to substantiation by the Administrator, usually by submission of a receipt from a service provider describing the service, the date and the amount. The Administrator shall also follow the requirements set forth in Revenue Ruling 2003-43 and Notice 2006-69. All charges shall be conditional pending confirmation and substantiation.

(g) **Correction methods.** If such purchase is later determined by the Administrator to not qualify as a Medical Expense, the Administrator, in its discretion, shall use one of the following correction methods to make the Plan whole. Until the amount is repaid, the Administrator shall take further action to ensure that further violations of the terms of the card do not occur, up to and including denial of access to the card.

(1) Repayment of the improper amount by the Participant;

(2) Withholding the improper payment from the Participant's wages or other compensation to the extent consistent with applicable federal or state law;

(3) Claims substitution or offset of future claims until the amount is repaid; and

(4) if subsections (1) through (3) fail to recover the amount, consistent with the Employer's business practices, the Employer may treat the amount as any other business indebtedness.

ARTICLE VII
DEPENDENT CARE FLEXIBLE SPENDING ACCOUNT

7.1 ESTABLISHMENT OF ACCOUNT

This Dependent Care Flexible Spending Account is intended to qualify as a program under Code Section 129 and shall be interpreted in a manner consistent with such Code Section. Participants who elect to participate in this program may submit claims for the reimbursement of Employment-Related Dependent Care Expenses. All amounts reimbursed shall be paid from amounts allocated to the Participant's Dependent Care Flexible Spending Account.

7.2 DEFINITIONS

For the purposes of this Article and the Cafeteria Plan the terms below shall have the following meaning:

(a) **"Dependent Care Flexible Spending Account"** means the account established for a Participant pursuant to this Article to which part of his Cafeteria Plan Benefit Dollars may be allocated and from which Employment-Related Dependent Care Expenses of the Participant may be reimbursed for the care of the Qualifying Dependents of Participants.

(b) **"Earned Income"** means earned income as defined under Code Section 32(c)(2), but excluding such amounts paid or incurred by the Employer for dependent care assistance to the Participant.

(c) **"Employment-Related Dependent Care Expenses"** means the amounts paid for expenses of a Participant for those services which if paid by the Participant would be considered employment related expenses under Code Section 21(b)(2). Generally, they shall include expenses for household services and for the care of a Qualifying Dependent, to the extent that such expenses are incurred to enable the Participant to be gainfully employed for any period for which there are one or more Qualifying Dependents with respect to such Participant. Employment-Related Dependent Care Expenses are treated as having been incurred when the Participant's Qualifying Dependents are provided with the dependent care that gives rise to the Employment-Related Dependent Care Expenses, not when the Participant is formally billed or charged for, or pays for the dependent care. The determination of whether an amount qualifies as an Employment-Related Dependent Care Expense shall be made subject to the following rules:

(1) If such amounts are paid for expenses incurred outside the Participant's household, they shall constitute Employment-Related Dependent Care Expenses only if incurred for a Qualifying Dependent as defined in Section 7.2(d)(1) (or deemed to be, as described in Section 7.2(d)(1) pursuant to Section 7.2(d)(3)), or for a Qualifying Dependent as defined in Section 7.2(d)(2) (or deemed to be, as described in Section 7.2(d)(2) pursuant to Section 7.2(d)(3)) who regularly spends at least 8 hours per day in the Participant's household;

(2) If the expense is incurred outside the Participant's home at a facility that provides care for a fee, payment, or grant for more than 6 individuals who do not regularly reside at the facility, the facility must comply with all applicable state and local laws and regulations, including licensing requirements, if any; and

(3) Employment-Related Dependent Care Expenses of a Participant shall not include amounts paid or incurred to a child of such Participant who is under the age of 19 or to an individual who is a Dependent of such Participant or such Participant's Spouse.

(d) **"Qualifying Dependent"** means, for Dependent Care Flexible Spending Account purposes,

(1) a Participant's Dependent (as defined in Code Section 152(a)(1)) who has not attained age 13;

(2) a Dependent or the Spouse of a Participant who is physically or mentally incapable of caring for himself or herself and has the same principal place of abode as the Participant for more than one-half of such taxable year; or

(3) a child that is deemed to be a Qualifying Dependent described in paragraph (1) or (2) above, whichever is appropriate, pursuant to Code Section 21(e)(5).

(e) The definitions of Article I are hereby incorporated by reference to the extent necessary to interpret and apply the provisions of this Dependent Care Flexible Spending Account.

7.3 DEPENDENT CARE FLEXIBLE SPENDING ACCOUNTS

The Administrator shall establish a Dependent Care Flexible Spending Account for each Participant who elects to apply Cafeteria Plan Benefit Dollars to Dependent Care Flexible Spending Account benefits.

7.4 INCREASES IN DEPENDENT CARE FLEXIBLE SPENDING ACCOUNTS

A Participant's Dependent Care Flexible Spending Account shall be increased each pay period by the portion of Cafeteria Plan Benefit Dollars that he has elected to apply toward his Dependent Care Flexible Spending Account pursuant to elections made under Article V hereof.

7.5 DECREASES IN DEPENDENT CARE FLEXIBLE SPENDING ACCOUNTS

A Participant's Dependent Care Flexible Spending Account shall be reduced by the amount of any Employment-Related Dependent Care Expense reimbursements paid or incurred on behalf of a Participant pursuant to Section 7.12 hereof.

7.6 ALLOWABLE DEPENDENT CARE REIMBURSEMENT

Subject to limitations contained in Section 7.9 of this Program, and to the extent of the amount contained in the Participant's Dependent Care Flexible Spending Account, a Participant who incurs Employment-Related Dependent Care Expenses shall be entitled to receive from the Employer full reimbursement for the entire amount of such expenses incurred during the Plan Year or portion thereof during which he is a Participant.

7.7 ANNUAL STATEMENT OF BENEFITS

On or before January 31st of each calendar year, the Employer shall furnish to each Employee who was a Participant and received benefits under Section 7.6 during the prior calendar year, a statement of all such benefits paid to or on behalf of such Participant during the prior calendar year. This statement is set forth on the Participant's Form W-2.

7.8 FORFEITURES

The amount in a Participant's Dependent Care Flexible Spending Account as of the end of any Plan Year (and after the processing of all claims for such Plan Year pursuant to Section 7.12 hereof) shall be forfeited and credited to the benefit plan surplus. In such event, the Participant shall have no further claim to such amount for any reason.

7.9 LIMITATION ON PAYMENTS

(a) **Code limits.** Notwithstanding any provision contained in this Article to the contrary, amounts paid from a Participant's Dependent Care Flexible Spending Account in or on account of any taxable year of the Participant shall not exceed the lesser of the Earned Income limitation described in Code Section 129(b) or $5,000 ($2,500 if a separate tax return is filed by a Participant who is married as determined under the rules of paragraphs (3) and (4) of Code Section 21(e)).

7.10 NONDISCRIMINATION REQUIREMENTS

(a) **Intent to be nondiscriminatory.** It is the intent of this Dependent Care Flexible Spending Account that contributions or benefits not discriminate in favor of the group of employees in whose favor discrimination may not occur under Code Section 129(d).

(b) **25% test for shareholders.** It is the intent of this Dependent Care Flexible Spending Account that not more than 25 percent of the amounts paid by the Employer for dependent care assistance during the Plan Year will be provided for the class of individuals who are shareholders or owners (or their Spouses or Dependents), each of whom (on any day of the Plan Year) owns more than 5 percent of the stock or of the capital or profits interest in the Employer.

(c) **Adjustment to avoid test failure.** If the Administrator deems it necessary to avoid discrimination or possible taxation to a group of employees in whose favor discrimination may not occur in violation of Code Section 129 it may, but shall not be required to, reject any elections or reduce contributions or non-taxable benefits in order to assure compliance with this Section. Any act taken by the Administrator under this Section shall be carried out in a uniform and nondiscriminatory manner. If the Administrator decides to reject any elections or reduce contributions or Benefits, it shall be done in the following manner. First, the Benefits designated for the Dependent Care Flexible Spending Account by the affected Participant that elected to contribute the highest amount to such account for the Plan Year shall be reduced until the nondiscrimination tests set forth in this Section are satisfied, or until the amount designated for the account equals the amount designated for the account of the affected Participant who has elected the second highest contribution to the Dependent Care Flexible Spending Account for the Plan Year. This process shall continue until the nondiscrimination tests set forth in this Section are satisfied. Contributions which are not utilized to provide Benefits to any Participant by virtue of any administrative act under this paragraph shall be forfeited.

7.11 COORDINATION WITH CAFETERIA PLAN

All Participants under the Cafeteria Plan are eligible to receive Benefits under this Dependent Care Flexible Spending Account. The enrollment and termination of participation under the Cafeteria Plan shall constitute enrollment and termination of participation under this Dependent Care Flexible Spending Account. In addition, other matters concerning contributions, elections and the like shall be governed by the general provisions of the Cafeteria Plan.

7.12 DEPENDENT CARE FLEXIBLE SPENDING ACCOUNT CLAIMS

The Administrator shall direct the payment of all such Dependent Care claims to the Participant upon the presentation to the Administrator of documentation of such expenses in a form satisfactory to the Administrator. However, in the Administrator's discretion, payments may be made directly to the service provider. In its discretion in administering the Plan, the Administrator may utilize forms and require documentation of costs as may be necessary to verify the claims submitted. At a minimum, the form shall include a statement from an independent third party as proof that the expense has been incurred during the Plan Year including the Grace Period and the amount of such expense. In addition, the Administrator may require that each Participant who desires to receive reimbursement under this Program for Employment-Related Dependent Care Expenses submit a statement which may contain some or all of the following information:

(a) The Dependent or Dependents for whom the services were performed;

(b) The nature of the services performed for the Participant, the cost of which he wishes reimbursement;

(c) The relationship, if any, of the person performing the services to the Participant;

(d) If the services are being performed by a child of the Participant, the age of the child;

(e) A statement as to where the services were performed;

(f) If any of the services were performed outside the home, a statement as to whether the Dependent for whom such services were performed spends at least 8 hours a day in the Participant's household;

(g) If the services were being performed in a day care center, a statement:

(1) that the day care center complies with all applicable laws and regulations of the state of residence,

(2) that the day care center provides care for more than 6 individuals (other than individuals residing at the center), and

(3) of the amount of fee paid to the provider.

(h) If the Participant is married, a statement containing the following:

(1) the Spouse's salary or wages if he or she is employed, or

(2) if the Participant's Spouse is not employed, that

(i) he or she is incapacitated, or

(ii) he or she is a full-time student attending an educational institution and the months during the year which he or she attended such institution.

(i) **Grace Period.** Notwithstanding anything in this Section to the contrary, Employment-Related Dependent Care Expenses incurred during the Grace Period, up to the remaining account balance, shall also be deemed to have been incurred during the Plan Year to which the Grace Period relates.

(j) **Claims for reimbursement.** If a Participant fails to submit a claim within 90 days after the end of the Plan Year, those claims shall not be considered for reimbursement by the Administrator.

7.13 DEBIT AND CREDIT CARDS

Participants may, subject to a procedure established by the Administrator and applied in a uniform nondiscriminatory manner, use debit and/or credit (stored value) cards ("cards") provided by the Administrator and the Plan for payment of Employment-Related Dependent Care Expenses, subject to the following terms:

(a) **Card only for dependent care expenses.** Each Participant issued a card shall certify that such card shall only be used for Employment-Related Dependent Care Expenses. The Participant shall also certify that any Employment-Related Dependent Care Expense paid with the card has not already been reimbursed by any other plan covering dependent care benefits and that the Participant will not seek reimbursement from any other plan covering dependent care benefits.

(b) **Card issuance.** Such card shall be issued upon the Participant's Effective Date of Participation and reissued for each Plan Year the Participant remains a Participant in the Dependent Care Flexible Spending Account. Such card shall be automatically cancelled upon the Participant's death or termination of employment, or if such Participant has a change in status that results in the Participant's withdrawal from the Dependent Care Flexible Spending Account.

(c) **Only available for use with certain service providers.** The cards shall only be accepted by such service providers as have been approved by the Administrator. The cards shall only be used for Employment-Related Dependent Care Expenses from these providers.

(d) **Substantiation.** Such purchases by the cards shall be subject to substantiation by the Administrator, usually by submission of a receipt from a service provider describing the service, the date and the amount. The Administrator shall also follow the requirements set forth in Revenue Ruling 2003-43 and Notice 2006-69. All charges shall be conditional pending confirmation and substantiation.

(e) **Correction methods.** If such purchase is later determined by the Administrator to not qualify as an Employment-Related Dependent Care Expense, the Administrator, in its discretion, shall use one of the following correction methods to make the Plan whole. Until the amount is repaid, the Administrator shall take further action to ensure that further violations of the terms of the card do not occur, up to and including denial of access to the card.

(1) Repayment of the improper amount by the Participant;

(2) Withholding the improper payment from the Participant's wages or other compensation to the extent consistent with applicable federal or state law;

(3) Claims substitution or offset of future claims until the amount is repaid; and

(4) if subsections (1) through (3) fail to recover the amount, consistent with the Employer's business practices, the Employer may treat the amount as any other business indebtedness.

ARTICLE VIII
BENEFITS AND RIGHTS

8.1 CLAIM FOR BENEFITS

(a) **Insurance claims.** Any claim for Benefits underwritten by Insurance Contract(s) shall be made to the Insurer. If the Insurer denies any claim, the Participant or beneficiary shall follow the Insurer's claims review procedure.

(b) **Dependent Care Flexible Spending Account or Health Flexible Spending Account claims.** Any claim for Dependent Care Flexible Spending Account or Health Flexible Spending Account Benefits shall be made to the Administrator. For the Health Flexible Spending Account, if a Participant fails to submit a claim within 90 days after the end of the Plan Year, those claims shall not be considered for reimbursement by the Administrator. For the Dependent Care Flexible Spending Account, if a Participant fails to submit a claim within 90 days after the end of the Plan Year, those claims shall not be considered for reimbursement by the Administrator. If the Administrator denies a claim, the Administrator may provide notice to the Participant or beneficiary, in writing, within 90 days after the claim is filed unless special circumstances require an extension of time for processing the claim. The notice of a denial of a claim shall be written in a manner calculated to be understood by the claimant and shall set forth:

(1) specific references to the pertinent Plan provisions on which the denial is based;

(2) a description of any additional material or information necessary for the claimant to perfect the claim and an explanation as to why such information is necessary; and

(3) an explanation of the Plan's claim procedure.

(c) **Appeal.** Within 60 days after receipt of the above material, the claimant shall have a reasonable opportunity to appeal the claim denial to the Administrator for a full and fair review. The claimant or his duly authorized representative may:

(1) request a review upon written notice to the Administrator;

(2) review pertinent documents; and

(3) submit issues and comments in writing.

(d) **Review of appeal.** A decision on the review by the Administrator will be made not later than 60 days after receipt of a request for review, unless special circumstances require an extension of time for processing (such as the need to hold a hearing), in which event a decision should be rendered as soon as possible, but in no event later than 120 days after such receipt. The decision of the Administrator shall be written and shall include specific reasons for the decision, written in a manner calculated to be understood by the claimant, with specific references to the pertinent Plan provisions on which the decision is based.

(e) **Forfeitures.** Any balance remaining in the Participant's Health Flexible Spending Account (excluding any carryover) or Dependent Care Flexible Spending Account as of the end of the time for claims reimbursement for each Plan Year and Grace Period (if applicable) shall be forfeited and deposited in the benefit plan surplus of the Employer pursuant to Section 6.3 or Section 7.8, whichever is applicable, unless the Participant had made a claim for such Plan Year, in writing, which has been denied or is pending; in which event the amount of the claim shall be held in his account until the claim appeal procedures set forth above have been satisfied or the claim is paid. If any such claim is denied on appeal, the amount held beyond the end of the Plan Year shall be forfeited and credited to the benefit plan surplus.

8.2 APPLICATION OF BENEFIT PLAN SURPLUS

Any forfeited amounts credited to the benefit plan surplus by virtue of the failure of a Participant to incur a qualified expense or seek reimbursement in a timely manner may, but need not be, separately accounted for after the close of the Plan Year (or after such further time specified herein for the filing of claims) in which such forfeitures arose. In no event shall such amounts be carried over to reimburse a Participant for expenses incurred during a subsequent Plan Year for the same or any other Benefit available under the Plan (excepting any carryover); nor shall amounts forfeited by a particular Participant be made available to such Participant in any other form or manner, except as permitted by Treasury regulations. Amounts in the benefit plan surplus shall be used to defray any administrative costs and experience losses or used to provide additional benefits under the Plan. No amounts attributable to the Health Savings Account shall be subject to the benefit plan surplus.

ARTICLE IX
ADMINISTRATION

9.1 PLAN ADMINISTRATION

The Employer shall be the Administrator, unless the Employer elects otherwise. The Employer may appoint any person, including, but not limited to, the Employees of the Employer, to perform the duties of the Administrator. Any person so appointed shall signify acceptance by filing acceptance in writing (or such other form as acceptable to both parties) with the Employer. Upon the resignation or removal of any individual performing the duties of the Administrator, the Employer may designate a successor.

If the Employer elects, the Employer shall appoint one or more Administrators. Any person, including, but not limited to, the Employees of the Employer, shall be eligible to serve as an Administrator. Any person so appointed shall signify acceptance by filing acceptance in writing (or such other form as acceptable to both parties) with the Employer. An Administrator may resign by delivering a resignation in writing (or such other form as acceptable to both parties) to the Employer or be removed by the Employer by delivery of notice of removal (in writing or such other form as acceptable to both parties), to take effect at a date specified therein, or upon delivery to the Administrator if no date is specified. The Employer shall be empowered to appoint and remove the Administrator from time to time as it deems necessary for the proper administration of the Plan to ensure that the Plan is being operated for the exclusive benefit of the Employees entitled to participate in the Plan in accordance with the terms of the Plan and the Code.

The operation of the Plan shall be under the supervision of the Administrator. It shall be a principal duty of the Administrator to see that the Plan is carried out in accordance with its terms, and for the exclusive benefit of Employees entitled to participate in the Plan. The Administrator shall have full power and discretion to administer the Plan in all of its details and determine all questions arising in connection with the administration, interpretation, and application of the Plan. The Administrator may establish procedures, correct any defect, supply any information, or reconciles any inconsistency in such manner and to such extent as shall be deemed necessary or advisable to carry out the purpose of the Plan. The Administrator shall have all powers necessary or appropriate to accomplish the Administrator's duties under the Plan. The Administrator shall be charged with the duties of the general administration of the Plan as set forth under the Plan, including, but not limited to, in addition to all other powers provided by this Plan:

(a) To make and enforce such procedures, rules and regulations as the Administrator deems necessary or proper for the efficient administration of the Plan;

(b) To interpret the provisions of the Plan, the Administrator's interpretations thereof in good faith to be final and conclusive on all persons claiming benefits by operation of the Plan;

(c) To decide all questions concerning the Plan and the eligibility of any person to participate in the Plan and to receive benefits provided by operation of the Plan;

(d) To reject elections or to limit contributions or Benefits for certain highly compensated participants if it deems such to be desirable in order to avoid discrimination under the Plan in violation of applicable provisions of the Code;

(e) To provide Employees with a reasonable notification of their benefits available by operation of the Plan and to assist any Participant regarding the Participant's rights, benefits or elections under the Plan;

(f) To keep and maintain the Plan documents and all other records pertaining to and necessary for the administration of the Plan;

(g) To review and settle all claims against the Plan, to approve reimbursement requests, and to authorize the payment of benefits if the Administrator determines such shall be paid if the Administrator decides in its discretion that the applicant is entitled to them. This authority specifically permits the Administrator to settle disputed claims for benefits and any other disputed claims made against the Plan;

(h) To appoint such agents, counsel, accountants, consultants, and other persons or entities as may be required to assist in administering the Plan.

Any procedure, discretionary act, interpretation or construction taken by the Administrator shall be done in a nondiscriminatory manner based upon uniform principles consistently applied and shall be consistent with the intent that the Plan shall continue to comply with the terms of Code Section 125 and the Treasury regulations thereunder.

9.2 EXAMINATION OF RECORDS

The Administrator shall make available to each Participant, Eligible Employee and any other Employee of the Employer such records as pertain to their interest under the Plan for examination at reasonable times during normal business hours.

9.3 PAYMENT OF EXPENSES

Any reasonable administrative expenses shall be paid by the Employer unless the Employer determines that administrative costs shall be borne by the Participants under the Plan or by any Trust Fund which may be established hereunder. The Administrator may impose reasonable conditions for payments, provided that such conditions shall not discriminate in favor of highly compensated employees.

9.4 INSURANCE CONTROL CLAUSE

In the event of a conflict between the terms of this Plan and the terms of an Insurance Contract of an independent third party Insurer whose product is then being used in conjunction with this Plan, the terms of the Insurance Contract shall control as to those Participants receiving coverage under such Insurance Contract. For this purpose, the Insurance Contract shall control in defining the persons eligible for insurance, the dates of their eligibility, the conditions which must be satisfied to become insured, if any, the benefits Participants are entitled to and the circumstances under which insurance terminates.

9.5 INDEMNIFICATION OF ADMINISTRATOR

The Employer agrees to indemnify and to defend to the fullest extent permitted by law any Employee serving as the Administrator or as a member of a committee designated as Administrator (including any Employee or former Employee who previously served as Administrator or as a member of such committee) against all liabilities, damages, costs and expenses (including attorney's fees and amounts paid in settlement of any claims approved by the Employer) occasioned by any act or omission to act in connection with the Plan, if such act or omission is in good faith.

ARTICLE X
AMENDMENT OR TERMINATION OF PLAN

10.1 AMENDMENT

The Employer, at any time or from time to time, may amend any or all of the provisions of the Plan without the consent of any Employee or Participant. No amendment shall have the effect of modifying any benefit election of any Participant in effect at the time of such amendment, unless such amendment is made to comply with Federal, state or local laws, statutes or regulations.

10.2 TERMINATION

The Employer reserves the right to terminate this Plan, in whole or in part, at any time. In the event the Plan is terminated, no further contributions shall be made. Benefits under any Insurance Contract shall be paid in accordance with the terms of the Insurance Contract.

No further additions shall be made to the Health Flexible Spending Account or Dependent Care Flexible Spending Account, but all payments from such fund shall continue to be made according to the elections in effect until 90 days after the termination date of the Plan. Any amounts remaining in any such fund or account as of the end of such period shall be forfeited and deposited in the benefit plan surplus after the expiration of the filing period.

ARTICLE XI
MISCELLANEOUS

11.1 PLAN INTERPRETATION

All provisions of this Plan shall be interpreted and applied in a uniform, nondiscriminatory manner. This Plan shall be read in its entirety and not severed except as provided in Section 11.12.

11.2 GENDER, NUMBER AND TENSE

Wherever any words are used herein in one gender, they shall be construed as though they were also used in all genders in all cases where they would so apply; whenever any words are used herein in the singular or plural form, they shall be construed as though they were also used in the other form in all cases where they would so apply; and whenever any words are used herein in the past or present tense, they shall be construed as though they were also used in the other form in all cases where they would so apply.

11.3 WRITTEN DOCUMENT

This Plan, in conjunction with any separate written document which may be required by law, is intended to satisfy the written Plan requirement of Code Section 125 and any Treasury regulations thereunder relating to cafeteria plans.

11.4 EXCLUSIVE BENEFIT

This Plan shall be maintained for the exclusive benefit of the Employees who participate in the Plan.

11.5 PARTICIPANT'S RIGHTS

This Plan shall not be deemed to constitute an employment contract between the Employer and any Participant or to be a consideration or an inducement for the employment of any Participant or Employee. Nothing contained in this Plan shall be deemed to give any Participant or Employee the right to be retained in the service of the Employer or to interfere with the right of the Employer to discharge any Participant or Employee at any time regardless of the effect which such discharge shall have upon him as a Participant of this Plan.

11.6 ACTION BY THE EMPLOYER

Whenever the Employer under the terms of the Plan is permitted or required to do or perform any act or matter or thing, it shall be done and performed by a person duly authorized by its legally constituted authority.

11.7 EMPLOYER'S PROTECTIVE CLAUSES

(a) **Insurance purchase.** Upon the failure of either the Participant or the Employer to obtain the insurance contemplated by this Plan (whether as a result of negligence, gross neglect or otherwise), the Participant's Benefits shall be limited to the insurance premium(s), if any, that remained unpaid for the period in question and the actual insurance proceeds, if any, received by the Employer or the Participant as a result of the Participant's claim.

(b) **Validity of insurance contract.** The Employer shall not be responsible for the validity of any Insurance Contract issued hereunder or for the failure on the part of the Insurer to make payments provided for under any Insurance Contract. Once insurance is applied for or obtained, the Employer shall not be liable for any loss which may result from the failure to pay Premiums to the extent Premium notices are not received by the Employer.

11.8 NO GUARANTEE OF TAX CONSEQUENCES

Neither the Administrator nor the Employer makes any commitment or guarantee that any amounts paid to or for the benefit of a Participant under the Plan will be excludable from the Participant's gross income for federal or state income tax purposes, or that any other federal or state tax treatment will apply to or be available to any Participant. It shall be the obligation of each Participant to determine whether each payment under the Plan is excludable from the Participant's gross income for federal and state income tax purposes, and to notify the Employer if the Participant has reason to believe that any such payment is not so excludable. Notwithstanding the foregoing, the rights of Participants under this Plan shall be legally enforceable.

11.9 INDEMNIFICATION OF EMPLOYER BY PARTICIPANTS

If any Participant receives one or more payments or reimbursements under the Plan that are not for a permitted Benefit, such Participant shall indemnify and reimburse the Employer for any liability it may incur for failure to withhold federal or state income tax or Social Security tax from such payments or reimbursements. However, such indemnification and reimbursement shall not exceed the amount of additional federal and state income tax (plus any penalties) that the Participant would have owed if the payments or reimbursements had been made to the Participant as regular cash compensation, plus the Participant's share of any Social Security tax that would have been paid on such compensation, less any such additional income and Social Security tax actually paid by the Participant.

11.10 FUNDING

Unless otherwise required by law, contributions to the Plan need not be placed in trust or dedicated to a specific Benefit, but may instead be considered general assets of the Employer. Furthermore, and unless otherwise required by law, nothing herein shall be construed to require the Employer or the Administrator to maintain any fund or segregate any amount for the benefit of any Participant, and no Participant or other person shall have any claim against, right to, or security or other interest in, any fund, account or asset of the Employer from which any payment under the Plan may be made.

11.11 GOVERNING LAW

This Plan is governed by the Code and the Treasury regulations issued thereunder (as they might be amended from time to time). In no event shall the Employer guarantee the favorable tax treatment sought by this Plan. To the extent not preempted by Federal law, the provisions of this Plan shall be construed, enforced and administered according to the laws of the Commonwealth of Virginia.

11.12 SEVERABILITY

If any provision of the Plan is held invalid or unenforceable, its invalidity or unenforceability shall not affect any other provisions of the Plan, and the Plan shall be construed and enforced as if such provision had not been included herein.

11.13 CAPTIONS

The captions contained herein are inserted only as a matter of convenience and for reference, and in no way define, limit, enlarge or describe the scope or intent of the Plan, nor in any way shall affect the Plan or the construction of any provision thereof.

11.14 CONTINUATION OF COVERAGE (COBRA)

Notwithstanding anything in the Plan to the contrary, in the event any benefit under this Plan subject to the continuation coverage requirement of Code Section 4980B becomes unavailable, each Participant will be entitled to continuation coverage as prescribed in Code Section 4980B, and related regulations. This Section shall only apply if the Employer employs at least twenty (20) employees on more than 50% of its typical business days in the previous calendar year.

11.15 FAMILY AND MEDICAL LEAVE ACT (FMLA)

Notwithstanding anything in the Plan to the contrary, in the event any benefit under this Plan becomes subject to the requirements of the Family and Medical Leave Act and regulations thereunder, this Plan shall be operated in accordance with Regulation 1.125-3.

11.16 HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT (HIPAA)

Notwithstanding anything in this Plan to the contrary, this Plan shall be operated in accordance with HIPAA and regulations thereunder.

11.17 UNIFORMED SERVICES EMPLOYMENT AND REEMPLOYMENT RIGHTS ACT (USERRA)

Notwithstanding any provision of this Plan to the contrary, contributions, benefits and service credit with respect to qualified military service shall be provided in accordance with the Uniform Services Employment And Reemployment Rights Act (USERRA) and the regulations thereunder.

11.18 COMPLIANCE WITH HIPAA PRIVACY STANDARDS

(a) **Application.** If any benefits under this Cafeteria Plan are subject to the Standards for Privacy of Individually Identifiable Health Information (45 CFR Part 164, the "Privacy Standards"), then this Section shall apply.

(b) **Disclosure of PHI.** The Plan shall not disclose Protected Health Information to any member of the Employer's workforce unless each of the conditions set out in this Section are met. "Protected Health Information" shall have the same definition as set forth in the Privacy Standards but generally shall mean individually identifiable information about the past, present or future physical or mental health or condition of an individual, including genetic information and information about treatment or payment for treatment.

(c) **PHI disclosed for administrative purposes.** Protected Health Information disclosed to members of the Employer's workforce shall be used or disclosed by them only for purposes of Plan administrative functions. The Plan's administrative functions shall include all Plan payment functions and health care operations. The terms "payment" and "health care operations" shall have the same definitions as set out in the Privacy Standards, but the term "payment" generally shall mean activities taken to determine or fulfill Plan responsibilities with respect to eligibility, coverage, provision of benefits, or reimbursement for health care. Protected Health Information that consists of genetic information will not be used or disclosed for underwriting purposes.

(d) **PHI disclosed to certain workforce members.** The Plan shall disclose Protected Health Information only to members of the Employer's workforce who are designated and authorized to receive such Protected Health Information, and only to the extent and in the minimum amount necessary for that person to perform his or her duties with respect to the Plan. "Members of the Employer's workforce" shall refer to all employees and other persons under the control of the Employer. The Employer shall keep an updated list of those authorized to receive Protected Health Information.

(1) An authorized member of the Employer's workforce who receives Protected Health Information shall use or disclose the Protected Health Information only to the extent necessary to perform his or her duties with respect to the Plan.

(2) In the event that any member of the Employer's workforce uses or discloses Protected Health Information other than as permitted by this Section and the Privacy Standards, the incident shall be reported to the Plan's privacy official. The privacy official shall take appropriate action, including:

(i) investigation of the incident to determine whether the breach occurred inadvertently, through negligence or deliberately; whether there is a pattern of breaches; and the degree of harm caused by the breach;

(ii) appropriate sanctions against the persons causing the breach which, depending upon the nature of the breach, may include oral or written reprimand, additional training, or termination of employment;

(iii) mitigation of any harm caused by the breach, to the extent practicable; and

(iv) documentation of the incident and all actions taken to resolve the issue and mitigate any damages.

(e) **Certification.** The Employer must provide certification to the Plan that it agrees to:

(1) Not use or further disclose the information other than as permitted or required by the Plan documents or as required by law;

(2) Ensure that any agent or subcontractor, to whom it provides Protected Health Information received from the Plan, agrees to the same restrictions and conditions that apply to the Employer with respect to such information;

(3) Not use or disclose Protected Health Information for employment-related actions and decisions or in connection with any other benefit or employee benefit plan of the Employer;

(4) Report to the Plan any use or disclosure of the Protected Health Information of which it becomes aware that is inconsistent with the uses or disclosures permitted by this Section, or required by law;

(5) Make available Protected Health Information to individual Plan members in accordance with Section 164.524 of the Privacy Standards;

(6) Make available Protected Health Information for amendment by individual Plan members and incorporate any amendments to Protected Health Information in accordance with Section 164.526 of the Privacy Standards;

(7) Make available the Protected Health Information required to provide an accounting of disclosures to individual Plan members in accordance with Section 164.528 of the Privacy Standards;

(8) Make its internal practices, books and records relating to the use and disclosure of Protected Health Information received from the Plan available to the Department of Health and Human Services for purposes of determining compliance by the Plan with the Privacy Standards;

(9) If feasible, return or destroy all Protected Health Information received from the Plan that the Employer still maintains in any form, and retain no copies of such information when no longer needed for the purpose for which disclosure was made, except that, if such return or destruction is not feasible, limit further uses and disclosures to those purposes that make the return or destruction of the information infeasible; and

(10) Ensure the adequate separation between the Plan and members of the Employer's workforce, as required by Section 164.504(f)(2)(iii) of the Privacy Standards and set out in (d) above.

11.19 COMPLIANCE WITH HIPAA ELECTRONIC SECURITY STANDARDS

Under the Security Standards for the Protection of Electronic Protected Health Information (45 CFR Part 164.300 et. seq., the "Security Standards"):

(a) **Implementation.** The Employer agrees to implement reasonable and appropriate administrative, physical and technical safeguards to protect the confidentiality, integrity and availability of Electronic Protected Health Information that the Employer creates, maintains or transmits on behalf of the Plan. "Electronic Protected Health Information" shall have the same definition as set out in the Security Standards, but generally shall mean Protected Health Information that is transmitted by or maintained in electronic media.

(b) **Agents or subcontractors shall meet security standards.** The Employer shall ensure that any agent or subcontractor to whom it provides Electronic Protected Health Information shall agree, in writing, to implement reasonable and appropriate security measures to protect the Electronic Protected Health Information.

(c) **Employer shall ensure security standards.** The Employer shall ensure that reasonable and appropriate security measures are implemented to comply with the conditions and requirements set forth in Section 11.18.

11.20 MENTAL HEALTH PARITY AND ADDICTION EQUITY ACT

Notwithstanding anything in the Plan to the contrary, the Plan will comply with the Mental Health Parity and Addiction Equity Act.

11.21 GENETIC INFORMATION NONDISCRIMINATION ACT (GINA)

Notwithstanding anything in the Plan to the contrary, the Plan will comply with the Genetic Information Nondiscrimination Act.

11.22 WOMEN'S HEALTH AND CANCER RIGHTS ACT

Notwithstanding anything in the Plan to the contrary, the Plan will comply with the Women's Health and Cancer Rights Act of 1998.

11.23 NEWBORNS' AND MOTHERS' HEALTH PROTECTION ACT

Notwithstanding anything in the Plan to the contrary, the Plan will comply with the Newborns' and Mothers' Health Protection Act.

IN WITNESS WHEREOF, this Plan document is hereby executed this ____________ day of ________________________________.

Rivanna Water and Sewer Authority

By ____
EMPLOYER

RIVANNA WATER AND SEWER AUTHORITY
FLEXIBLE BENEFIT PLAN

SUMMARY PLAN DESCRIPTION

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RIVANNA WATER AND SEWER AUTHORITY
FLEXIBLE BENEFIT PLAN

INTRODUCTION

We have amended the "Flexible Benefits Plan" that we previously established for you and other eligible employees. Under this Plan, you will be able to choose among certain benefits that we make available. The benefits that you may choose are outlined in this Summary Plan Description. We will also tell you about other important information concerning the amended Plan, such as the rules you must satisfy before you can join and the laws that protect your rights.

One of the most important features of our Plan is that the benefits being offered are generally ones that you are already paying for, but normally with money that has first been subject to income and Social Security taxes. Under our Plan, these same expenses will be paid for with a portion of your pay before Federal and State income or Social Security taxes are withheld. This means that you will pay less tax and have more money to spend and save.

Read this Summary Plan Description carefully so that you understand the provisions of our amended Plan and the benefits you will receive. This SPD describes the Plan's benefits and obligations as contained in the legal Plan document, which governs the operation of the Plan. The Plan document is written in much more technical and precise language. If the non-technical language in this SPD and the technical, legal language of the Plan document conflict, the Plan document always governs. Also, if there is a conflict between an insurance contract and either the Plan document or this Summary Plan Description, the insurance contract will control. If you wish to receive a copy of the legal Plan document, please contact the Administrator.

This SPD describes the current provisions of the Plan which are designed to comply with applicable legal requirements. The Plan is subject to federal laws, such as the Internal Revenue Code and other federal and state laws which may affect your rights. The provisions of the Plan are subject to revision due to a change in laws or due to pronouncements by the Internal Revenue Service (IRS) or other federal agencies. We may also amend or terminate this Plan. If the provisions of the Plan that are described in this SPD change, we will notify you.

We have attempted to answer most of the questions you may have regarding your benefits in the Plan. If this SPD does not answer all of your questions, please contact the Administrator (or other plan representative). The name and address of the Administrator can be found in the Article of this SPD entitled "General Information About the Plan."

I
ELIGIBILITY

1. When can I become a participant in the Plan?

Before you become a Plan member (referred to in this Summary Plan Description as a "Participant"), there are certain rules which you must satisfy. First, you must meet the eligibility requirements and be an active employee. After that, the next step is to actually join the Plan on the "entry date" that we have established for all employees. The "entry date" is defined in Question 3 below. You will also be required to complete certain application forms before you can enroll in the Plan.

2. What are the eligibility requirements for our Plan?

You will be eligible to join the Plan on the first of the month once you have completed 30 days of employment. Of course, if you were already a participant before this amendment, you will remain a participant.

3. When is my entry date?

Once you have met the eligibility requirements, your entry date will be the first day of the pay period coinciding with or following the date you met the eligibility requirements.

4. Are there any employees who are not eligible?

Yes, there are certain employees who are not eligible to join the Plan. They are:

-- Employees who are part-time. A part-time employee is someone who works, or is expected to work, less than 30 hours a week.

5. What must I do to enroll in the Plan?

Before you can join the Plan, you must complete an application to participate in the Plan. The application includes your personal choices for each of the benefits which are being offered under the Plan. You must also authorize us to set some of your earnings aside in order to pay for the benefits you have elected.

II
OPERATION

1. How does this Plan operate?

Before the start of each Plan Year, you will be able to elect to have some of your upcoming pay contributed to the Plan. These amounts will be used to pay for the benefits you have chosen. The portion of your pay that is paid to the Plan is not subject to Federal and State income or Social Security taxes. In other words, this allows you to use tax-free dollars to pay for certain kinds of benefits and expenses which you normally pay for with out-of-pocket, taxable dollars. However, if you receive a reimbursement for an expense under the Plan, you cannot claim a Federal income tax credit or deduction on your return. (See the Article entitled "General Information About Our Plan" for the definition of "Plan Year.")

III
CONTRIBUTIONS

1. How much of my pay may the Employer redirect?

Each year, you may elect to have us contribute on your behalf enough of your compensation to pay for the benefits that you elect under the Plan. These amounts will be deducted from your pay over the course of the year.

2. What happens to contributions made to the Plan?

Before each Plan Year begins, you will select the benefits you want and how much of the contributions should go toward each benefit. It is very important that you make these choices carefully based on what you expect to spend on each covered benefit or expense during the Plan Year. Later, they will be used to pay for the expenses as they arise during the Plan Year.

3. When must I decide which accounts I want to use?

You are required by Federal law to decide before the Plan Year begins, during the election period (defined below). You must decide two things. First, which benefits you want and, second, how much should go toward each benefit.

4. When is the election period for our Plan?

You will make your initial election on or before your entry date. (You should review Section I on Eligibility to better understand the eligibility requirements and entry date.) Then, for each following Plan Year, the election period is established by the Administrator and applied uniformly to all Participants. It will normally be a period of time prior to the beginning of each Plan Year. The Administrator will inform you each year about the election period. (See the Article entitled "General Information About Our Plan" for the definition of Plan Year.)

5. May I change my elections during the Plan Year?

Generally, you cannot change the elections you have made after the beginning of the Plan Year. However, there are certain limited situations when you can change your elections. You are permitted to change elections if you have a "change in status" and you make an election change that is consistent with the change in status. Currently, Federal law considers the following events to be a change in status:

-- Marriage, divorce, death of a spouse, legal separation or annulment;

-- Change in the number of dependents, including birth, adoption, placement for adoption, or death of a dependent;

-- Any of the following events for you, your spouse or dependent: termination or commencement of employment, a strike or lockout, commencement or return from an unpaid leave of absence, a change in worksite, or any other change in employment status that affects eligibility for benefits;

-- One of your dependents satisfies or ceases to satisfy the requirements for coverage due to change in age, student status, or any similar circumstance; and

-- A change in the place of residence of you, your spouse or dependent that would lead to a change in status, such as moving out of a coverage area for insurance.

In addition, if you are participating in the Dependent Care Flexible Spending Account, then there is a change in status if your dependent no longer meets the qualifications to be eligible for dependent care.

However, with respect to the Health Savings Account, you may modify or revoke your elections without having to have a change in status.

There are detailed rules on when a change in election is deemed to be consistent with a change in status. In addition, there are laws that give you rights to change health coverage for you, your spouse, or your dependents. If you change coverage due to rights you have under the law, then you can make a corresponding change in your elections under the Plan. If any of these conditions apply to you, you should contact the Administrator.

If the cost of a benefit provided under the Plan increases or decreases during a Plan Year, then we will automatically increase or decrease, as the case may be, your salary redirection election. If the cost increases significantly, you will be permitted to either make corresponding changes in your payments or revoke your election and obtain coverage under another benefit package option with similar coverage, or revoke your election entirely.

If the coverage under a Benefit is significantly curtailed or ceases during a Plan Year, then you may revoke your elections and elect to receive on a prospective basis coverage under another plan with similar coverage. In addition, if we add a new coverage option or eliminate an existing option, you may elect the newly-added option (or elect another option if an option has been eliminated) and make corresponding election changes to other options providing similar coverage. If you are not a Participant, you may elect to join the Plan. There are also certain situations when you may be able to change your elections on account of a change under the plan of your spouse's, former spouse's or dependent's employer.

These rules on change due to cost or coverage do not apply to the Health Flexible Spending Account, and you may not change your election to the Health Flexible Spending Account if you make a change due to cost or coverage for insurance or if you decide to participate in the Health Savings Account.

You may not change your election under the Dependent Care Flexible Spending Account if the cost change is imposed by a dependent care provider who is your relative.

You may revoke your coverage under the employer's group health plan outside of our open enrollment period, if your employment status changes from working at least 30 hours per week to less than 30 hours. This is regardless of whether the reduction in hours has resulted in loss of eligibility. You must show intent to enroll in another health plan.

You may also revoke your coverage under our Employer sponsored group health plan if you are eligible to obtain coverage through the health exchanges.

6. May I make new elections in future Plan Years?

Yes, you may. For each new Plan Year, you may change the elections that you previously made. You may also choose not to participate in the Plan for the upcoming Plan Year. If you do not make new elections during the election period before a new Plan Year begins, we will assume you want your elections for insured benefits only to remain the same and you will not be considered a Participant for the non-insured benefit options under the Plan for the upcoming Plan Year.

IV
BENEFITS

1. Health Flexible Spending Account

The Health Flexible Spending Account enables you to pay for expenses allowed under Sections 105 and 213(d) of the Internal Revenue Code which are not covered by our insured medical plan and save taxes at the same time. The Health Flexible Spending Account allows you to be reimbursed by the Employer for expenses incurred by you and your dependents.

Drug costs, including insulin, may be reimbursed.

You may be reimbursed for "over the counter" drugs only if those drugs are prescribed for you. You may not, however, be reimbursed for the cost of other health care coverage maintained outside of the Plan, or for long-term care expenses. A list of covered expenses is available from the Administrator.

For 2020, the most you can contribute is $2,750. After 2020, the dollar limit may increase for cost of living adjustments. In addition, you will be eligible to carryover amounts left in your Health Flexible Spending Account, up to $500.00. This means that amounts you do not use during a Plan Year can be carried over to the next Plan Year and used for expenses incurred in the next Plan Year.

In order to be reimbursed for a health care expense, you must submit to the Administrator an itemized bill from the service provider. We will also provide you with a debit or credit card to use to pay for medical expenses. The Administrator will provide you with further details. Amounts reimbursed from the Plan may not be claimed as a deduction on your personal income tax return. Reimbursement from the fund shall be paid at least once a month. Expenses under this Plan are treated as being "incurred" when you are provided with the care that gives rise to the expenses, not when you are formally billed or charged, or you pay for the medical care.

You may be reimbursed for expenses for any child until the end of the calendar year in which the child reaches age 26. A child is a natural child, stepchild, foster child, adopted child, or a child placed with you for adoption. If a child gains or regains eligibility due to these new rules, that qualifies as a change in status to change coverage.

Newborns' and Mothers' Health Protection Act: Group health plans generally may not, under Federal law, restrict benefits for any hospital length of stay in connection with childbirth for the mother or newborn child to less than 48 hours following a vaginal delivery, or less than 96 hours following a cesarean section. However, Federal law generally does not prohibit the mother's or newborn's attending provider, after consulting with the mother, from discharging the mother or her newborn earlier than 48 hours (or 96 hours as applicable). In any case, plans and issuers may not, under Federal law, require that a provider obtain authorization from the plan or the issuer for prescribing a length of stay not in excess of 48 hours (or 96 hours).

Women's Health and Cancer Rights Act: This plan, as required by the Women's Health and Cancer Rights Act of 1998, will reimburse up to plan limits for benefits for mastectomy-related services including reconstruction and surgery to achieve symmetry between the breasts, prostheses, and complications resulting from a mastectomy (including lymphedema). Contact your Plan Administrator for more information.

2. Dependent Care Flexible Spending Account

The Dependent Care Flexible Spending Account enables you to pay for out-of-pocket, work-related dependent day-care cost with pre-tax dollars. If you are married, you can use the account if you and your spouse both work or, in some situations, if your spouse goes to school full-time. Single employees can also use the account.

An eligible dependent is someone for whom you can claim expenses on Federal Income Tax Form 2441 "Credit for Child and Dependent Care Expenses." Children must be under age 13. Other dependents must be physically or mentally unable to care for themselves. Dependent Care arrangements which qualify include:

(a) A Dependent (Day) Care Center, provided that if care is provided by the facility for more than six individuals, the facility complies with applicable state and local laws;

(b) An Educational Institution for pre-school children. For older children, only expenses for non-school care are eligible; and

(c) An "Individual" who provides care inside or outside your home: The "Individual" may not be a child of yours under age 19 or anyone you claim as a dependent for Federal tax purposes.

You should make sure that the dependent care expenses you are currently paying for qualify under our Plan. We will also provide you with a debit or credit card to use to pay for dependent care expenses. The Administrator will provide you with further details.

The law places limits on the amount of money that can be paid to you in a calendar year from your Dependent Care Flexible Spending Account. Generally, your reimbursements may not exceed the lesser of: (a) $5,000 (if you are married filing a joint return or you are head of a household) or $2,500 (if you are married filing separate returns); (b) your taxable compensation; (c) your spouse's actual or deemed earned income (a spouse who is a full time student or incapable of caring for himself/herself has a monthly earned income of $250 for one dependent or $500 for two or more dependents).

Also, in order to have the reimbursements made to you from this account be excludable from your income, you must provide a statement from the service provider including the name, address, and in most cases, the taxpayer identification number of the service provider on your tax form for the year, as well as the amount of such expense as proof that the expense has been incurred. In addition, Federal tax laws permit a tax credit for certain dependent care expenses you may be paying for even if you are not a Participant in this Plan. You may save more money if you take advantage of this tax credit rather than using the Dependent Care Flexible Spending Account under our Plan. Ask your tax adviser which is better for you.

3. Premium Expense Account

A Premium Expense Account allows you to use tax-free dollars to pay for certain premium expenses under various insurance programs that we offer you. These premium expenses include:

-- Health care premiums under our insured group medical plan.

-- Group term life insurance premiums.

-- Dental insurance premiums.

-- Disability insurance premiums.

-- Vision insurance premiums.

Under our Plan, we will establish sub-accounts for you for each different type of insurance coverage that is available. Also, certain limits on the amount of coverage may apply.

The Administrator may terminate or modify Plan benefits at any time, subject to the provisions of any insurance contracts providing benefits described above. We will not be liable to you if an insurance company fails to provide any of the benefits described above. Also, your insurance will end when you leave employment, are no longer eligible under the terms of any insurance policies, or when insurance terminates.

Any benefits to be provided by insurance will be provided only after (1) you have provided the Administrator the necessary information to apply for insurance, and (2) the insurance is in effect for you.

If you cover your children up to age 26 under your insurance, you can pay for that coverage through the Plan.

4. May I direct Plan contributions to my Health Savings Account?

Yes. Any monies that you do not apply toward available benefits can be contributed to your Health Savings Account, which enables you to pay for expenses which are not covered by our insured medical plan and save taxes at the same time. Please see your Plan Administrator for further details.

V
BENEFIT PAYMENTS

1. When will I receive payments from my accounts?

During the course of the Plan Year, you may submit requests for reimbursement of expenses you have incurred. Expenses are considered "incurred" when the service is performed, not necessarily when it is paid for. The Administrator will provide you with acceptable forms for submitting these requests for reimbursement. If the request qualifies as a benefit or expense that the Plan has agreed to pay, you will receive a reimbursement payment soon thereafter. Remember, these reimbursements which are made from the Plan are generally not subject to federal income tax or withholding. Nor are they subject to Social Security taxes. Requests for payment of insured benefits should be made directly to the insurer. You will only be reimbursed from the Dependent Care Flexible Spending Account to the extent that there are sufficient funds in the Account to cover your request.

2. What happens if I don't spend all Plan contributions during the Plan Year?

If you have not spent all the amounts in your Dependent Care Flexible Spending Account by the end of the Plan Year, you may continue to incur claims for expenses during the "Grace Period." The "Grace Period" extends 2 1/2 months after the end of the Plan Year, during which time you can continue to incur claims and use up all amounts remaining in your Dependent Care Flexible Spending Account.

Any monies left at the end of the Plan Year and the Grace Period will be forfeited, except for amounts contributed to your Health Savings Account. Obviously, qualifying expenses that you incur late in the Plan Year or during the Grace Period for which you seek reimbursement after the end of such Plan Year and Grace Period will be paid first before any amount is forfeited. For the Health Flexible Spending Account, you must submit claims no later than 90 days after the end of the Plan Year. For the Dependent Care Flexible Spending Account, you must submit claims no later than 90 days after the end of the Plan Year. Because it is possible that you might forfeit amounts in the Plan if you do not fully use the contributions that have been made, it is important that you decide how much to place in each account carefully and conservatively. Remember, you must decide which benefits you want to contribute to and how much to place in each account before the Plan Year begins. You want to be as certain as you can that the amount you decide to place in each account will be used up entirely.

3. Family and Medical Leave Act (FMLA)

If you take leave under the Family and Medical Leave Act, you may revoke or change your existing elections for health insurance, group-term life insurance and the Health Flexible Spending Account. If your coverage in these benefits terminates, due to your revocation of the benefit while on leave or due to your non-payment of contributions, you will be permitted to reinstate coverage for the remaining part of the Plan Year upon your return. For the Health Flexible Spending Account, you may continue your coverage or you may revoke your coverage and resume it when you return. You can resume your coverage at its original level and make payments for the time that you are on leave. For example, if you elect $1,200 for the year and are out on leave for 3 months, then return and elect to resume your coverage at that level, your remaining payments will be increased to cover the difference - from $100 per month to $150 per month. Alternatively your maximum amount will be reduced proportionately for the time that you were gone. For example, if you elect $1,200 for the year and are out on leave for 3 months, your amount will be reduced to $900. The expenses you incur during the time you are not in the Health Flexible Spending Account are not reimbursable.

If you continue your coverage during your unpaid leave, you may pre-pay for the coverage, you may pay for your coverage on an after-tax basis while you are on leave, or you and your Employer may arrange a schedule for you to "catch up" your payments when you return.

4. Uniformed Services Employment and Reemployment Rights Act (USERRA)

If you are going into or returning from military service, you may have special rights to health care coverage under your Health Flexible Spending Account under the Uniformed Services Employment and Reemployment Rights Act of 1994. These rights can include extended health care coverage. If you may be affected by this law, ask your Administrator for further details.

5. What happens if I terminate employment?

If you terminate employment during the Plan Year, your right to benefits will be determined in the following manner:

(a) You will remain covered by insurance, but only for the period for which premiums have been paid prior to your termination of employment.

(b) You will still be able to request reimbursement for qualifying dependent care expenses incurred during the remainder of the Plan Year from the balance remaining in your dependent care account at the time of termination of employment. However, no further salary redirection contributions will be made on your behalf after you terminate. You must submit claims within 90 days after the end of the Plan Year in which termination occurs.

(c) Your Health Savings Account amounts will remain yours even after your termination of employment.

(d) For health benefit coverage and Health Flexible Spending Account coverage on termination of employment, please see the Article entitled "Continuation Coverage Rights Under COBRA." Upon your termination of employment, your participation in the Health Flexible Spending Account will cease, and no further salary redirection contributions will be contributed on your behalf. However, you will be able to submit claims for health care expenses that were incurred before the end of the period for which payments to the Health Flexible Spending Account have already been made. Your further participation will be governed by "Continuation Coverage Rights Under COBRA."

6. Will my Social Security benefits be affected?

Your Social Security benefits may be slightly reduced because when you receive tax-free benefits under our Plan, it reduces the amount of contributions that you make to the Federal Social Security system as well as our contribution to Social Security on your behalf.

VI
HIGHLY COMPENSATED AND KEY EMPLOYEES

1. Do limitations apply to highly compensated employees?

Under the Internal Revenue Code, highly compensated employees and key employees generally are Participants who are officers, shareholders or highly paid. You will be notified by the Administrator each Plan Year whether you are a highly compensated employee or a key employee.

If you are within these categories, the amount of contributions and benefits for you may be limited so that the Plan as a whole does not unfairly favor those who are highly paid, their spouses or their dependents. Federal tax laws state that a plan will be considered to unfairly favor the key employees if they as a group receive more than 25% of all of the nontaxable benefits provided for under our Plan.

Plan experience will dictate whether contribution limitations on highly compensated employees or key employees will apply. You will be notified of these limitations if you are affected.

VII
PLAN ACCOUNTING

1. Periodic Statements

The Administrator will provide you with a statement of your account periodically during the Plan Year that shows your account balance. It is important to read these statements carefully so you understand the balance remaining to pay for a benefit. Remember, you want to spend all the money you have designated for a particular benefit by the end of the Plan Year.

VIII
GENERAL INFORMATION ABOUT OUR PLAN

This Section contains certain general information which you may need to know about the Plan.

1. General Plan Information

Rivanna Water and Sewer Authority Flexible Benefit Plan is the name of the Plan.

Your Employer has assigned Plan Number 504 to your Plan.

The provisions of your amended Plan become effective on July 1, 2020. Your Plan was originally effective on January 1, 2006.

Your Plan's records are maintained on a twelve-month period of time. This is known as the Plan Year. The Plan Year begins on July 1 and ends on June 30.

2. Employer Information

Your Employer's name, address, and identification number are:

Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlotesville, Virginia 22902
54-0934608

3. Plan Administrator Information

The name, address and business telephone number of your Plan's Administrator are:

Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlotesville, Virginia 22902
(434) 977-2970

The Administrator keeps the records for the Plan and is responsible for the administration of the Plan. The Administrator will also answer any questions you may have about our Plan. You may contact the Administrator for any further information about the Plan.

4. Service of Legal Process

The name and address of the Plan's agent for service of legal process are:

Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlotesville, Virginia 22902

5. Type of Administration

The type of Administration is Employer Administration.

6. Claims Submission

Claims for expenses should be submitted to:

Flexible Benefit Administrators, Inc.
Post Office Drawer 8188
Virginia Beach, VA 23450

IX
ADDITIONAL PLAN INFORMATION

1. Claims Process

You should submit all reimbursement claims during the Plan Year. For the Health Flexible Spending Account, you must submit claims no later than 90 days after the end of the Plan Year. For the Dependent Care Flexible Spending Account, you must submit claims no later than 90 days after the end of the Plan Year. Any claims submitted after that time will not be considered.

Claims that are insured will be handled in accordance with procedures contained in the insurance policies. All other general requests should be directed to the Administrator of our Plan. If a dependent care or medical expense claim under the Plan is denied in whole or in part, you or your beneficiary will receive written notification. The notification will include the reasons for the denial, with reference to the specific provisions of the Plan on which the denial was based, a description of any additional information needed to process the claim and an explanation of the claims review procedure. Within 60 days after denial, you or your beneficiary may submit a written request for reconsideration of the denial to the Administrator.

Any such request should be accompanied by documents or records in support of your appeal. You or your beneficiary may review pertinent documents and submit issues and comments in writing. The Administrator will review the claim and provide, within 60 days, a written response to the appeal. (This period may be extended an additional 60 days under certain circumstances.) In this response, the Administrator will explain the reason for the decision, with specific reference to the provisions of the Plan on which the decision is based. The Administrator has the exclusive right to interpret the appropriate plan provisions. Decisions of the Administrator are conclusive and binding.

X
CONTINUATION COVERAGE RIGHTS UNDER COBRA

Under federal law, the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), certain employees and their families covered under health benefits under this Plan will be entitled to the opportunity to elect a temporary extension of health coverage (called "COBRA continuation coverage") where coverage under the Plan would otherwise end. This notice is intended to inform Plan Participants and beneficiaries, in summary fashion, of their rights and obligations under the continuation coverage provisions of COBRA, as amended and reflected in final and proposed regulations published by the Department of the Treasury. This notice is intended to reflect the law and does not grant or take away any rights under the law.

The Plan Administrator or its designee is responsible for administering COBRA continuation coverage. Complete instructions on COBRA, as well as election forms and other information, will be provided by the Plan Administrator or its designee to Plan Participants who become Qualified Beneficiaries under COBRA. While the Plan itself is not a group health plan, it does provide health benefits. Whenever "Plan" is used in this section, it means any of the health benefits under this Plan including the Health Flexible Spending Account.

1. What is COBRA continuation coverage?

COBRA continuation coverage is the temporary extension of group health plan coverage that must be offered to certain Plan Participants and their eligible family members (called "Qualified Beneficiaries") at group rates. The right to COBRA continuation coverage is triggered by the occurrence of a life event that results in the loss of coverage under the terms of the Plan (the "Qualifying Event"). The coverage must be identical to the coverage that the Qualified Beneficiary had immediately before the Qualifying Event, or if the coverage has been changed, the coverage must be identical to the coverage provided to similarly situated active employees who have not experienced a Qualifying Event (in other words, similarly situated non-COBRA beneficiaries).

There may be other options available when you lose group health coverage**.** For example, you may be eligible to buy an individual plan through the Health Insurance Marketplace. By enrolling in coverage through the Marketplace, you may qualify for lower costs on your monthly premiums and lower out-of-pocket costs. Additionally, you may qualify for a 30-day special enrollment period for another group health plan for which you are eligible (such as a spouse's plan), even if that plan generally doesn't accept late enrollees.

2. Who can become a Qualified Beneficiary?

In general, a Qualified Beneficiary can be:

(a) Any individual who, on the day before a Qualifying Event, is covered under a Plan by virtue of being on that day either a covered Employee, the Spouse of a covered Employee, or a Dependent child of a covered Employee. If, however, an individual who otherwise qualifies as a Qualified Beneficiary is denied or not offered coverage under the Plan under circumstances in which the denial or failure to offer constitutes a violation of applicable law, then the individual will be considered to have had the coverage and will be considered a Qualified Beneficiary if that individual experiences a Qualifying Event.

(b) Any child who is born to or placed for adoption with a covered Employee during a period of COBRA continuation coverage, and any individual who is covered by the Plan as an alternate recipient under a qualified medical support order. If, however, an individual who otherwise qualifies as a Qualified Beneficiary is denied or not offered coverage under the Plan under circumstances in which the denial or failure to offer constitutes a violation of applicable law, then the individual will be considered to have had the coverage and will be considered a Qualified Beneficiary if that individual experiences a Qualifying Event.

The term "covered Employee" includes any individual who is provided coverage under the Plan due to his or her performance of services for the employer sponsoring the Plan. However, this provision does not establish eligibility of these individuals. Eligibility for Plan coverage shall be determined in accordance with Plan Eligibility provisions.

An individual is not a Qualified Beneficiary if the individual's status as a covered Employee is attributable to a period in which the individual was a nonresident alien who received from the individual's Employer no earned income that constituted income from sources within the United States. If, on account of the preceding reason, an individual is not a Qualified Beneficiary, then a Spouse or Dependent child of the individual will also not be considered a Qualified Beneficiary by virtue of the relationship to the individual. A domestic partner is not a Qualified Beneficiary.

Each Qualified Beneficiary (including a child who is born to or placed for adoption with a covered Employee during a period of COBRA continuation coverage) must be offered the opportunity to make an independent election to receive COBRA continuation coverage.

3. What is a Qualifying Event?

A Qualifying Event is any of the following if the Plan provided that the Plan participant would lose coverage (i.e., cease to be covered under the same terms and conditions as in effect immediately before the Qualifying Event) in the absence of COBRA continuation coverage:

(a) The death of a covered Employee.

(b) The termination (other than by reason of the Employee's gross misconduct), or reduction of hours, of a covered Employee's employment.

(c) The divorce or legal separation of a covered Employee from the Employee's Spouse. If the Employee reduces or eliminates the Employee's Spouse's Plan coverage in anticipation of a divorce or legal separation, and a divorce or legal separation later occurs, then the divorce or legal separation may be considered a Qualifying Event even though the Spouse's coverage was reduced or eliminated before the divorce or legal separation.

(d) A covered Employee's enrollment in any part of the Medicare program.

(e) A Dependent child's ceasing to satisfy the Plan's requirements for a Dependent child (for example, attainment of the maximum age for dependency under the Plan).

If the Qualifying Event causes the covered Employee, or the covered Spouse or a Dependent child of the covered Employee, to cease to be covered under the Plan under the same terms and conditions as in effect immediately before the Qualifying Event, the persons losing such coverage become Qualified Beneficiaries under COBRA if all the other conditions of COBRA are also met. For example, any increase in contribution that must be paid by a covered Employee, or the Spouse, or a Dependent child of the covered Employee, for coverage under the Plan that results from the occurrence of one of the events listed above is a loss of coverage.

The taking of leave under the Family and Medical Leave Act of 1993, as amended ("FMLA") does not constitute a Qualifying Event. A Qualifying Event will occur, however, if an Employee does not return to employment at the end of the FMLA leave and all other COBRA continuation coverage conditions are present. If a Qualifying Event occurs, it occurs on the last day of FMLA leave and the applicable maximum coverage period is measured from this date (unless coverage is lost at a later date and the Plan provides for the extension of the required periods, in which case the maximum coverage date is measured from the date when the coverage is lost.) Note that the covered Employee and family members will be entitled to COBRA continuation coverage even if they failed to pay the employee portion of premiums for coverage under the Plan during the FMLA leave.

4. What factors should be considered when determining to elect COBRA continuation coverage?

When considering options for health coverage, Qualified Beneficiaries should consider:

- **Premiums:** This plan can charge up to 102% of total plan premiums for COBRA coverage. Other options, like coverage on a spouse's plan or through the Marketplace, may be less expensive. Qualified Beneficiaries have special enrollment rights under federal law (HIPAA). They have the right to request special enrollment in another group health plan for which they are otherwise eligible (such as a plan sponsored by a spouse's employer) within 30 days after Plan coverage ends due to one of the Qualifying Events listed above.

- **Provider Networks:** If a Qualified Beneficiary is currently getting care or treatment for a condition, a change in health coverage may affect access to a particular health care provider. You may want to check to see if your current health care providers participate in a network in considering options for health coverage.

- **Drug Formularies:** For Qualified Beneficiaries taking medication, a change in health coverage may affect costs for medication – and in some cases, the medication may not be covered by another plan. Qualified beneficiaries should check to see if current medications are listed in drug formularies for other health coverage.

- **Severance payments:** If COBRA rights arise because the Employee has lost his job and there is a severance package available from the employer, the former employer may have offered to pay some or all of the Employee's COBRA payments for a period of time. This can affect the timing of coverage available in the Marketplace. In this scenario, the Employee may want to contact the Department of Labor at 1-866-444-3272 to discuss options.

- **Medicare Eligibility:** You should be aware of how COBRA coverage coordinates with Medicare eligibility. If you are eligible for Medicare at the time of the Qualifying Event, or if you will become eligible soon after the Qualifying Event, you should know that you have 8 months to enroll in Medicare after your employment –related health coverage ends. Electing COBRA coverage does not extend this 8-month period. For more information, see medicare.gov/sign-up-change-plan**.**

- **Service Areas:** If benefits under the Plan are limited to specific service or coverage areas, benefits may not be available to a Qualified Beneficiary who moves out of the area.

- **Other Cost-Sharing:** In addition to premiums or contributions for health coverage, the Plan requires participants to pay copayments, deductibles, coinsurance, or other amounts as benefits are used. Qualified beneficiaries should check to see what the cost-sharing requirements are for other health coverage options. For example, one option may have much lower monthly premiums, but a much higher deductible and higher copayments.

Are there other coverage options besides COBRA Continuation Coverage? Yes. Instead of enrolling in COBRA continuation coverage, there may be other coverage options for Qualified Beneficiaries through the Health Insurance Marketplace, Medicaid, or other group health plan coverage options (such as a spouse's plan) through what is called a "special enrollment period." Some of these options may cost less than COBRA continuation coverage. You can learn more about many of these options at www.healthcare.gov.

5. What is the procedure for obtaining COBRA continuation coverage?

The Plan has conditioned the availability of COBRA continuation coverage upon the timely election of such coverage. An election is timely if it is made during the election period.

6. What is the election period and how long must it last?

The election period is the time period within which the Qualified Beneficiary must elect COBRA continuation coverage under the Plan. The election period must begin no later than the date the Qualified Beneficiary would lose coverage on account of the Qualifying Event and ends 60 days after the later of the date the Qualified Beneficiary would lose coverage on account of the Qualifying Event or the date notice is provided to the Qualified Beneficiary of her or his right to elect COBRA continuation coverage. If coverage is not elected within the 60 day period, all rights to elect COBRA continuation coverage are forfeited.

Note: If a covered Employee who has been terminated or experienced a reduction of hours qualifies for a trade readjustment allowance or alternative trade adjustment assistance under a federal law called the Trade Act of 2002, as extended by the Trade Preferences Extension Act of 2015, and the employee and his or her covered dependents have not elected COBRA coverage within the normal election period, a second opportunity to elect COBRA coverage will be made available for themselves and certain family members, but only within a limited period of 60 days or less and only during the six months immediately after their group health plan coverage ended. Any person who qualifies or thinks that he or she and/or his or her family members may qualify for assistance under this special provision should contact the Plan Administrator or its designee for further information about the special second election period. If continuation coverage is elected under this extension, it will not become effective prior to the beginning of this special second election period.

7. Is a covered Employee or Qualified Beneficiary responsible for informing the Plan Administrator of the occurrence of a Qualifying Event?

The Plan will offer COBRA continuation coverage to Qualified Beneficiaries only after the Plan Administrator or its designee has been timely notified that a Qualifying Event has occurred. The Employer (if the Employer is not the Plan Administrator) will notify the Plan Administrator or its designee of the Qualifying Event within 30 days following the date coverage ends when the Qualifying Event is:

(a) the end of employment or reduction of hours of employment,

(b) death of the employee,

(c) commencement of a proceeding in bankruptcy with respect to the Employer, or

(d) entitlement of the employee to any part of Medicare.

IMPORTANT:

For the other Qualifying Events (divorce or legal separation of the employee and spouse or a dependent child's losing eligibility for coverage as a dependent child), you or someone on your behalf must notify the Plan Administrator or its designee in writing within 60 days after the Qualifying Event occurs, using the procedures specified below. If these procedures are not followed or if the notice is not provided in writing to the Plan Administrator or its designee during the 60-day notice period, any spouse or dependent child who loses coverage will not be offered the option to elect continuation coverage. You must send this notice to the Plan Administrator or its designee.

NOTICE PROCEDURES:

Any notice that you provide must be ***in writing***. Oral notice, including notice by telephone, is not acceptable. You must mail, fax or hand-deliver your notice to the person, department or firm listed below, at the following address:

Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlotesville, Virginia 22902

If mailed, your notice must be postmarked no later than the last day of the required notice period. Any notice you provide must state:

- the **name of the plan or plans** under which you lost or are losing coverage,
- the **name and address of the employee** covered under the plan,
- the **name(s) and address(es) of the Qualified Beneficiary(ies)**, and
- the **Qualifying Event** and the **date** it happened.

If the Qualifying Event is a **divorce or legal separation**, your notice must include **a copy of the divorce decree or the legal separation agreement**.

Be aware that there are other notice requirements in other contexts, for example, in order to qualify for a disability extension.

Once the Plan Administrator or its designee receives *timely notice* that a Qualifying Event has occurred, COBRA continuation coverage will be offered to each of the qualified beneficiaries. Each Qualified Beneficiary will have an independent right to elect COBRA continuation coverage. Covered employees may elect COBRA continuation coverage for their spouses, and parents may elect COBRA continuation coverage on behalf of their children. For each Qualified Beneficiary who elects COBRA continuation coverage, COBRA continuation coverage will begin on the date that plan coverage would otherwise have been lost. If you or your spouse or dependent children do not elect continuation coverage within the 60-day election period described above, the right to elect continuation coverage will be lost.

8. Is a waiver before the end of the election period effective to end a Qualified Beneficiary's election rights?

If, during the election period, a Qualified Beneficiary waives COBRA continuation coverage, the waiver can be revoked at any time before the end of the election period. Revocation of the waiver is an election of COBRA continuation coverage. However, if a waiver is later revoked, coverage need not be provided retroactively (that is, from the date of the loss of coverage until the waiver is revoked). Waivers and revocations of waivers are considered made on the date they are sent to the Plan Administrator or its designee, as applicable.

9. Is COBRA coverage available if a Qualified Beneficiary has other group health plan coverage or Medicare?

Qualified Beneficiaries who are entitled to elect COBRA continuation coverage may do so even if they are covered under another group health plan or are entitled to Medicare benefits on or before the date on which COBRA is elected. However, a Qualified Beneficiary's COBRA coverage will terminate automatically if, after electing COBRA, he or she becomes entitled to Medicare or becomes covered under other group health plan coverage.

10. When may a Qualified Beneficiary's COBRA continuation coverage be terminated?

During the election period, a Qualified Beneficiary may waive COBRA continuation coverage. Except for an interruption of coverage in connection with a waiver, COBRA continuation coverage that has been elected for a Qualified Beneficiary must extend for at least the period beginning on the date of the Qualifying Event and ending not before the earliest of the following dates:

(a) The last day of the applicable maximum coverage period.

(b) The first day for which Timely Payment is not made to the Plan with respect to the Qualified Beneficiary.

(c) The date upon which the Employer ceases to provide any group health plan (including a successor plan) to any employee.

(d) The date, after the date of the election, that the Qualified Beneficiary first becomes entitled to Medicare (either part A or part B, whichever occurs earlier).

(e) In the case of a Qualified Beneficiary entitled to a disability extension, the later of:

(1) (i) 29 months after the date of the Qualifying Event, or (ii) the first day of the month that is more than 30 days after the date of a final determination under Title II or XVI of the Social Security Act that the disabled Qualified Beneficiary whose disability resulted in the Qualified Beneficiary's entitlement to the disability extension is no longer disabled, whichever is earlier; or

(2) the end of the maximum coverage period that applies to the Qualified Beneficiary without regard to the disability extension.

The Plan can terminate for cause the coverage of a Qualified Beneficiary on the same basis that the Plan terminates for cause the coverage of similarly situated non-COBRA beneficiaries, for example, for the submission of a fraudulent claim.

In the case of an individual who is not a Qualified Beneficiary and who is receiving coverage under the Plan solely because of the individual's relationship to a Qualified Beneficiary, if the Plan's obligation to make COBRA continuation coverage available to the Qualified Beneficiary ceases, the Plan is not obligated to make coverage available to the individual who is not a Qualified Beneficiary.

11. What are the maximum coverage periods for COBRA continuation coverage?

The maximum coverage periods are based on the type of the Qualifying Event and the status of the Qualified Beneficiary, as shown below.

(a) In the case of a Qualifying Event that is a termination of employment or reduction of hours of employment, the maximum coverage period ends 18 months after the Qualifying Event if there is not a disability extension and 29 months after the Qualifying Event if there is a disability extension.

(b) In the case of a covered Employee's enrollment in the Medicare program before experiencing a Qualifying Event that is a termination of employment or reduction of hours of employment, the maximum coverage period for Qualified Beneficiaries ends on the later of:

(1) 36 months after the date the covered Employee becomes enrolled in the Medicare program. This extension does not apply to the covered Employee; or

(2) 18 months (or 29 months, if there is a disability extension) after the date of the covered Employee's termination of employment or reduction of hours of employment.

(c) In the case of a Qualified Beneficiary who is a child born to or placed for adoption with a covered Employee during a period of COBRA continuation coverage, the maximum coverage period is the maximum coverage period applicable to the Qualifying Event giving rise to the period of COBRA continuation coverage during which the child was born or placed for adoption.

(d) In the case of any other Qualifying Event than that described above, the maximum coverage period ends 36 months after the Qualifying Event.

12. Under what circumstances can the maximum coverage period be expanded?

If a Qualifying Event that gives rise to an 18-month or 29-month maximum coverage period is followed, within that 18- or 29-month period, by a second Qualifying Event that gives rise to a 36-months maximum coverage period, the original period is expanded to 36 months, but only for individuals who are Qualified Beneficiaries at the time of and with respect to both Qualifying Events. In no circumstance can the COBRA maximum coverage period be expanded to more than 36 months after the date of the first Qualifying Event. The Plan Administrator must be notified of the second qualifying event within 60 days of the second qualifying event. This notice must be sent to the Plan Administrator or its designee in accordance with the procedures above.

13. How does a Qualified Beneficiary become entitled to a disability extension?

A disability extension will be granted if an individual (whether or not the covered Employee) who is a Qualified Beneficiary in connection with the Qualifying Event that is a termination or reduction of hours of a covered Employee's employment, is determined under Title II or XVI of the Social Security Act to have been disabled at any time during the first 60 days of COBRA continuation coverage. To qualify for the disability extension, the Qualified Beneficiary must also provide the Plan Administrator with notice of the disability determination on a date that is both within 60 days after the date of the determination and before the end of the original 18-month maximum coverage. This notice must be sent to the Plan Administrator or its designee in accordance with the procedures above.

14. Does the Plan require payment for COBRA continuation coverage?

For any period of COBRA continuation coverage under the Plan, Qualified Beneficiaries who elect COBRA continuation coverage may be required to pay up to 102% of the applicable premium and up to 150% of the applicable premium for any expanded period of COBRA continuation coverage covering a disabled Qualified Beneficiary due to a disability extension. Your Plan Administrator will inform you of the cost. The Plan will terminate a Qualified Beneficiary's COBRA continuation coverage as of the first day of any period for which timely payment is not made.

15. Must the Plan allow payment for COBRA continuation coverage to be made in monthly installments?

Yes. The Plan is also permitted to allow for payment at other intervals.

16. What is Timely Payment for COBRA continuation coverage?

Timely Payment means a payment made no later than 30 days after the first day of the coverage period. Payment that is made to the Plan by a later date is also considered Timely Payment if either under the terms of the Plan, covered Employees or Qualified Beneficiaries are allowed until that later date to pay for their coverage for the period or under the terms of an arrangement between the Employer and the entity that provides Plan benefits on the Employer's behalf, the Employer is allowed until that later date to pay for coverage of similarly situated non-COBRA beneficiaries for the period.

Notwithstanding the above paragraph, the Plan does not require payment for any period of COBRA continuation coverage for a Qualified Beneficiary earlier than 45 days after the date on which the election of COBRA continuation coverage is made for that Qualified Beneficiary. Payment is considered made on the date on which it is postmarked to the Plan.

If Timely Payment is made to the Plan in an amount that is not significantly less than the amount the Plan requires to be paid for a period of coverage, then the amount paid will be deemed to satisfy the Plan's requirement for the amount to be paid, unless the Plan notifies the Qualified Beneficiary of the amount of the deficiency and grants a reasonable period of time for payment of the deficiency to be made. A "reasonable period of time" is 30 days after the notice is provided. A shortfall in a Timely Payment is not significant if it is no greater than the lesser of $50 or 10% of the required amount.

17. Must a Qualified Beneficiary be given the right to enroll in a conversion health plan at the end of the maximum coverage period for COBRA continuation coverage?

If a Qualified Beneficiary's COBRA continuation coverage under a group health plan ends as a result of the expiration of the applicable maximum coverage period, the Plan will, during the 180-day period that ends on that expiration date, provide the Qualified Beneficiary with the option of enrolling under a conversion health plan if such an option is otherwise generally available to similarly situated non-COBRA beneficiaries under the Plan. If such a conversion option is not otherwise generally available, it need not be made available to Qualified Beneficiaries.

18. How is my participation in the Health Flexible Spending Account affected?

You can elect to continue your participation in the Health Flexible Spending Account for the remainder of the Plan Year, subject to the following conditions. You may only continue to participate in the Health Flexible Spending Account if you have elected to contribute more money including any carryover amounts than you have taken out in claims. For example, if you elected to contribute an annual amount of $500 and, at the time you terminate employment, you have contributed $300 but only claimed $150, you may elect to continue coverage under the Health Flexible Spending Account. If you elect to continue coverage, then you would be able to continue to receive your health reimbursements up to the $500. However, you must continue to pay for the coverage, just as the money has been taken out of your paycheck, but on an after-tax basis. The Plan can also charge you an extra amount (as explained above for other health benefits) to provide this benefit.

IF YOU HAVE QUESTIONS

If you have questions about your COBRA continuation coverage, you should contact the Plan Administrator or its designee. For more information about your rights under ERISA, including COBRA, the Health Insurance Portability and Accountability Act (HIPAA), and other laws affecting group health plans, contact the nearest Regional or District Office of the U.S. Department of Labor's Employee Benefits Security Administration (EBSA). Addresses and phone numbers of Regional and District EBSA Offices are available through EBSA's website at www.dol.gov/ebsa.

KEEP YOUR PLAN ADMINISTRATOR INFORMED OF ADDRESS CHANGES

In order to protect your family's rights, you should keep the Plan Administrator informed of any changes in the addresses of family members. You should also keep a copy, for your records, of any notices you send to the Plan Administrator or its designee.

XI
SUMMARY

The money you earn is important to you and your family. You need it to pay your bills, enjoy recreational activities and save for the future. Our flexible benefits plan will help you keep more of the money you earn by lowering the amount of taxes you pay. The Plan is the result of our continuing efforts to find ways to help you get the most for your earnings.

If you have any questions, please contact the Administrator.

ADOPTING RESOLUTION

The undersigned authorized representative of Rivanna Water and Sewer Authority (the Employer) hereby certifies that the following resolutions were duly adopted by the Employer on _____________________, and that such resolutions have not been modified or rescinded as of the date hereof:

RESOLVED, that the form of amended Cafeteria Plan including a Health Flexible Spending Account and Dependent Care Flexible Spending Account effective July 1, 2020, presented to this meeting is hereby approved and adopted and that an authorized representative of the Employer is hereby authorized and directed to execute and deliver to the Administrator of the Plan one or more counterparts of the Plan.

The undersigned further certifies that attached hereto as Exhibits A and B, respectively, are true copies of Rivanna Water and Sewer Authority Flexible Benefit Plan as amended and restated, and the Summary Plan Description approved and adopted in the foregoing resolutions.

Date: ______________________________

Signed: ______________________________

____
[print name/title]

RIVANNA AUTHORITIES

RIVANNA SOLID WASTE AUTHORITY
RIVANNA WATER & SEWER AUTHORITY

695 Moores Creek Lane
Charlottesville, Virginia 22902-9016

434.977.2970
434.293.8858
www.rivanna.org

MEMORANDUM

TO: RIVANNA SOLID WASTE AUTHORITY BOARD OF DIRECTORS
RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: BETSY NEMETH, HUMAN RESOURCES MANAGER
LONNIE WOOD, DIRECTOR OF FINANCE & ADMINISTRATION

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: UPDATED EMPLOYEE HANDBOOK

DATE: AUGUST 25, 2020

Pursuant to updated Virginia Human Rights Act, found in Virginia Code, Chapter 39 which states,

"An employer shall post in a conspicuous location and include in any employee handbook information concerning an employee's rights to reasonable accommodation for known limitations related to pregnancy, childbirth, or related medical conditions. Such information shall also be directly provided to (i) new employees upon commencement of their employment and (ii) any employee within 10 days of such employee's providing notice to the employer that she is pregnant.",

we have attached a red-line copy of the Rivanna Authorities' Employee Handbook with these required employee handbook changes.

With the addition of this information, the Rivanna Authorities Employee Handbook will be compliant with the provisions of the Virginia Human Rights Act.

Board Action Recommended:
It is respectfully recommended that the Board of Directors approve the changes to Employee Handbook.

Attachments: Redline changes of Employee Handbook

CONFLICT OF INTEREST

Employees must not have a material financial interest in or engage in any business or profession that conflicts or appears to conflict with job responsibilities or that tends to impair independence of judgment or action on the job. Likewise, employees must not use their positions for personal gain beyond wages and benefits and must keep confidential all information acquired through employment when that information is not available to the public. See the Personnel Management Plan *(Section I., Administrative Policies)*.

- **Gifts**
  Employees must not accept gifts of goods, favors, services, or money from any person or firm which would influence or could be inferred to influence the impartial discharge of duties. Employees also must not accept such gifts for services the Authority pays them to provide. If such gifts cannot be gracefully declined, the employee should either donate them to charity or in some cases make them available department-wide or Authority-wide. Promotional items such as individual caps, pens, pencils and the like can usually be accepted without fear of violating this standard. Likewise, acceptance of occasional meals or attendance at social activities provided by business contacts or vendors can usually be accepted. Favoritism will not be tolerated. Employees should remember that donors of gifts will probably expect or seek preferential treatment. If you have **any** doubts as to what to do, ask your department manager or the Executive Director before accepting any gift.

- **Nepotism**
  No employee in a supervisory position shall have under his or her direct supervision any employee whose relationship is of the first or second degree either by blood or marriage. In the event of a promotion which brings about the conditions thus described, the employee of lower rank shall be transferred to another position for which he or she is qualified when a vacancy occurs.

  Relationship of the first or second degree shall mean: father, mother, brother, sister, spouse, son, daughter, aunts, uncles, son-in-law or daughter-in-law, brother-in-law, step-family members and any other relatives or individuals residing with the employee.

- **Discrimination**
  Employees must not discriminate on the basis of race, color, religion, age, sex, pregnancy, childbirth or related medical conditions, sexual orientation, gender identity, disability, political affiliation, or national ancestry. Equal employment opportunity is not just a set of words but a commitment by the Authority to make affirmative action to provide a workplace in which employee qualifications, merit, and fairness are the governing rules regarding hiring, assigning work schedules, promotion, compensation, benefits, educational opportunities, and disciplinary actions. Further, the Authorities will give reasonable accommodation for known limitations related to pregnancy, childbirth or related medical conditions. If you see an apparent act of discrimination or feel you have been discriminated against, speak up or use the Grievance Procedure. The Human Resources Manager is available as a sounding board and any charges brought forth will be held in confidence as much as is legally allowable.

The Virginia Human Rights Act, found in Chapter 39 of the Virginia Code, makes it illegal for an employer to discriminate against someone on the basis of: race, color, religion, national origin, sex, pregnancy, childbirth or related medical conditions, age, marital status, or disability. A violation of this act will be deemed an unlawful discriminatory practice.

Further, an employee has a right to reasonable accommodation for known limitations as related to pregnancy, childbirth or related medical conditions. (*"Reasonable accommodation" includes more frequent or longer bathroom breaks, breaks to express breast milk, access to a private location other than a bathroom for the expression of breast milk, acquisition or modification of equipment or access to or modification of employee seating, a temporary transfer to a less strenuous or hazardous position, assistance with manual labor, job restructuring, a modified work schedule, light duty assignments, and leave to recover from childbirth.)*

An employee or applicant who has been denied any of the rights may bring an action in a general district or circuit court having jurisdiction over the employer that allegedly denied such rights. Any such action shall be brought within two years from the date of the unlawful denial of rights, or, if the employee or applicant has filed a complaint with the Division of Human Rights of the Department of Law or a local human rights or human relations agency or commission within two years of the unlawful denial of rights, such action shall be brought within 90 days from the date that the Division or a local human rights or human relations agency or commission has rendered a final disposition on the complaint.

RIVANNA WATER & SEWER AUTHORITY
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MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: LONZY E. WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: REIMBURSEMENT RESOLUTION – CIP FUNDING

DATE: AUGUST 25, 2020

Adoption of the Capital Improvement Plan (CIP) at the regular June meeting allows the Authority to move forward into a period of significant financing activity to fund many of the construction projects identified in the plan. We are currently using the latest bond issue from the Series 2018 Bond to finance several projects. However, as detailed in the approved CIP document, additional debt funding not covered in the current bonds for several projects is required over the next five years.

The attached Resolution of Official Intent (reimbursement resolution) and Exhibit A provide an estimate that as much as $79.3 million in new debt funding may be needed to finance project costs, which can be implemented in multiple issuances over several years as needed. After adding issuance cost requirements, a total of up to $81.5 million is estimated. As projects begin, we will use 100% cash from the capital fund. Occasionally, we use temporary financing before bond sales to fund the projects. Then, after permanent financing is in place, bond proceeds are used to partially pay back cash to the capital fund (or pay off temporary financing) - in essence pay ourselves back. This capability to pay ourselves back as each debt issuance takes place is very important to provide the financial flexibility and continuity as projects are implemented while also complying with debt covenants and regulations (e.g. arbitrage requirements).

In order to perform this reimbursement with tax exempt borrowings, the Authority needs to have a "Reimbursement Resolution" in place each year after the new CIP is adopted. The attached resolution does this and <u>does not</u> specifically authorize the issuance of the debt at this time. This resolution does not fix the exact amount of the future debt we will issue, although it is important that we not issue debt in amounts larger than the amount stated in this resolution. The attached resolution states the official intention of the Board to fund projects with debt, and additionally states that some proceeds of this debt, when issued for the purposes of funding projects in the CIP, will be used to pay for costs incurred <u>prior to</u> the date of the debt being issued.

The Authority has routinely adopted reimbursement resolutions in the past and adopted one similar to this following the last several updates of the CIP that were approved by the Board. The reimbursement resolution included with the Board agenda item is required for tax-exempt bond issues.

Board Action Requested:

Approve the attached *Resolution of Official Intent To Reimburse Expenditures With Proceeds of a Borrowing*.

Attachment

RESOLUTION OF OFFICIAL INTENT TO REIMBURSE EXPENDITURES WITH PROCEEDS OF A BORROWING

WHEREAS, Rivanna Water and Sewer Authority (the "Borrower") intends to acquire, construct and equip improvements to its water and sewer system, including without limitation the capital improvement projects described in Exhibit A attached hereto (collectively, the "Project"); and

WHEREAS, plans for the Project have advanced and the Borrower expects to advance its own funds to pay expenditures related to the Project (the "Expenditures") prior to incurring indebtedness and to receive reimbursement for all or a portion of such Expenditures from proceeds of tax-exempt bonds or taxable debt, or both;

BE IT RESOLVED BY THE RIVANNA WATER AND SEWER AUTHORITY:

1. The Borrower intends to utilize the proceeds of tax-exempt bonds (the "Bonds") or to incur other debt, in an amount not currently expected to exceed $81,500,000 to pay all or a portion of the costs of the Project.

2. The Borrower intends that the proceeds of the Bonds be used to reimburse the Borrower for Expenditures with respect to the Project made on or after the date that is no more than 60 days prior to the date hereof. The Borrower reasonably expects on the date hereof that it will reimburse the Expenditures with the proceeds of the Bonds or other debt.

3. Each Expenditure was or will be, unless otherwise approved by bond counsel, either (a) of a type properly chargeable to a capital account under general federal income tax principles (determined in each case as of the date of the Expenditure), (b) a cost of issuance with respect to the Bonds, (c) a nonrecurring item that is not customarily payable from current revenues, or (d) a grant to a party that is not related to or an agent of the Borrower so long as such grant does not impose any obligation or condition (directly or indirectly) to repay any amount to or for the benefit of the Borrower.

4. The Borrower intends to make a reimbursement allocation, which is a written allocation by the Borrower that evidences the Borrower's use of proceeds of the Bonds to reimburse an Expenditure, no later than 18 months after the later of the date on which the Expenditure is paid or the Project is placed in service or abandoned, but in no event more than three years after the date on which the Expenditure is paid. The Borrower recognizes that exceptions are available for certain "preliminary expenditures," costs of issuance, certain de minimis amounts, expenditures by "small issuers" (based on the year of issuance and not the year of expenditure) and expenditures for construction of at least five years.

5. The Borrower intends that the adoption of this resolution confirms the "official intent" within the meaning of Treasury Regulations Section 1.150-2 promulgated under the Internal Revenue Code of 1986, as amended.

6. This resolution shall take effect immediately upon its passage.

August 25, 2020

EXHIBIT A

Summary of the Capital Improvement Plan and financing plan as adopted on June 23, 2020:

	2021 - 2025 Adopted CIP	2020 - 2024 Adopted CIP	Change $
Project Cost			
Urban Water Projects	$ 74,977,900	$ 61,501,900	$ 13,476,000
Urban Wastewater Projects	22,520,000	14,753,000	7,767,000
Non-Urban Projects & Shared	35,011,000	20,949,000	14,062,000
Total Project Cost Estimates	**$ 132,508,900**	**$ 97,203,900**	**$ 35,305,000**
Funding in place			
Work-in-Progress (paid for)	$ 5,402,500	$ 2,943,110	2,459,390
Debt Proceeds Used	29,488,800	35,354,000	(5,865,200)
Cash-Capital Available	7,686,300	6,767,470	918,830
	$ 42,577,600	$ 45,064,580	$ (2,486,980)
Financing Needs			
Possible Future Reserves	$ 10,630,000	7,530,000	3,100,000
New Debt	79,301,300	44,609,320	34,691,980
	$ 89,931,300	$ 52,139,320	$ 37,791,980
Total Funding	**$ 132,508,900**	**$ 97,203,900**	**$ 35,305,000**
Percentage of funding in place	32.1%	46.4%	
Ratio of debt to expense	86.2%	85.3%	
Ratio of cash to expense	13.8%	14.7%	

The undersigned Secretary of the Rivanna Water and Sewer Authority hereby certifies that the foregoing is a true and correct copy of the resolutions adopted by the Board of Directors of the Authority at the regular meeting of the Board of Directors held on ***August 25, 2020****.*

____

Name: Jeff Richardson

Title: Secretary, Rivanna Water and Sewer Authority

RIVANNA AUTHORITIES

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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION**

REVIEWED: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **FINANCIAL POLICY UPDATE**

DATE: **AUGUST 25, 2020**

The Board last adopted and revised the Financial Polices of the Authority at the October 2014 regular meeting. These Financial Policies (the Policy) help establish financial goals and targets for the Authority. Policy decisions at the Board level also help disclose to the credit markets, bond holders and regulatory entities a commitment to sound planning and performance objectives guiding the operations, budget formulation and management of the Authority as a whole. There are also sections in the Policy that establish and define our operating/reserve funds and target amounts, debt issuance and related charges, and our obligations for post issuance compliance. At last month's Board meeting, we discussed and reviewed many of the policy targets in this document along with a summary of the Authority's reserves.

As with any policy statement, there is a need from time to time to review and update them with current information as the financial environment changes. Amendment No. 1 to the "Four-Party Agreement" between the City, County and ACSA was approved in October of 2015 by all parties. This amendment affected the determination of rates and charges to our two customers for the Authority's budgeted debt service costs related to capital expenditures and reserves. These changes need to be reflected in the Policy (see Debt Policy item 5).

There are minor updates and clarifications made in the Reserve & Fund Policy section that better define (some required for restricted reserves) our current policy on reserve funds. One of the edits better defines the capital fund and discretionary reserves (item 3). There are some changes in the Continuing Disclosure and Post Closure Compliance section mirroring several changes in our VRA financing agreements and/or SEC rule updates that have come about over the past several years. These edits (attached) have been reviewed by Davenport, Inc., our financial advisors, and Hunton, Andrews Kurth LLP, bond counsel to the Authority, and they concur with the edits.

<u>Board Action Requested</u>

Approve the updated Financial Policy with versions shown by the attached "redlined" draft.

Attachment.

Financial Policy

Rivanna Water & Sewer Authority

TABLE OF CONTENTS

FINANCIAL POLICY

Rivanna Water & Sewer Authority

Revised and updated August ~~October 28~~25, 2020~~14~~ DRAFT

FISCAL POLICY GUIDELINES - OBJECTIVES

This fiscal policy is a statement of the guidelines and goals that will influence and guide the financial management practice of the Rivanna Water & Sewer Authority (the Authority). A fiscal policy that is adopted, adhered to, and regularly reviewed is recognized as the foundation of sound financial management. Effective fiscal policy:

- Contributes significantly to the Authority's ability to prepare for and insulate itself from fiscal crisis by being able to better manage stressful financial internal and external events,
- Enhances the ability to obtain short-term and long-term credit financing by helping to achieve the highest credit and bond ratings possible,
- Promotes long-term financial stability by establishing clear and consistent guidelines,
- Directs attention to the total financial picture of the Authority rather than single issue areas, and
- Promotes the view of linking long-run financial planning with day-to-day operations.

To these ends, the following fiscal policy statements are presented.

Effective Dates:

Adopted August 23, 2011
Revised & Adopted October 28, 2014 (Continuing Disclosure update)
Revised & Adopted Draft August 25, 2020

FINANCIAL POLICY

Rivanna Water & Sewer Authority
Revised and updated August ~~October 28~~25, 202~~14~~ DRAFT

OPERATING BUDGET POLICIES

1. The Authority will budget for all current operating expenditures to be paid for with current operating revenues.

2. The Authority will maintain operating reserves, as defined in the Reserve Policy below, to help offset reductions in revenues related to low flow periods. This policy helps maintain the operation and maintenance functions that would otherwise have to be deferred or require sporadic rate increases due to low flows or extraordinary expenses; however,

3. The management and operations staff should, not only during the preparation of the budget but in the budget execution, use due care and promote cost savings and operating efficiencies at all times especially during periods of revenue shortfall due to low flows.

4. In preparing its annual budget, the Authority will base its revenue and expenditure projections on historic utility performance while also taking into consideration current trends, events and developments in regulatory and environmental activities.

5. One-time or other special revenues will not be used to finance continuing Authority operations, but instead will be used for funding specific one-time projects or adding to Authority rate center reserves.

6. The Authority will prepare monthly financial statements showing the progress of budget estimates compared to actual results. These monthly reports and the Authority's budgets are prepared on a cash flow or modified cash flow basis and differ from the final audited year end reports.

7. The Authority will annually prepare a Comprehensive Annual Financial Report (CAFR) that is audited by an independent CPA firm. The annual report is prepared to meet Generally Accepted Accounting Principles which is a full accrual basis of reporting. This report will be submitted to the Government Finance Officers Association for review each year for the Excellence in Financial Reporting program.

CAPITAL BUDGET POLICIES

1. The Authority will prepare and update annually for adoption, unless otherwise directed by the Board of Directors, a Capital Improvement Plan (CIP) that is developed for a five-year planning period. Future capital expenditures necessitated by changes in projected service demands or goals set by the Board, changes in the regulatory environment, maintenance and replacement of infrastructure that has reached the useful life will be included in capital planning projections.

2. The first year of the adopted five-year CIP will become the most current capital budget for the Authority and will serve as authorization for project execution by the Board. Additional Board action is required to move projects up to the first year of the plan subsequent to planned annual updated CIP adoption. Board action is required to add additional projects (authorizing the expending of capital resources) to the capital budget subsequent to the normal annual updating of the CIP.

3. The Authority will provide rate impacts and total debt service estimates for each customer resulting from the annual update of the CIP. These estimates are for planning purposes only and are not rate setting measures by the Board of Directors when adopting the CIP. There exist several factors that may not be known at the time of providing such estimates such as pending cost share agreements between the Albemarle County Service Authority and City of Charlottesville. The estimates provided will be used to coordinate development of the annual operating and debt service budget. Future operating costs associated with new capital improvements will be projected and included in operating budget forecasts. Significant additional operating costs should be disclosed within project descriptions in the CIP.

4. The Authority will maintain all assets at a level adequate to protect the Authority's capital investment, meet permitted regulatory requirements, and to minimize future maintenance and replacement costs.

5. The Authority will attempt to determine the least costly and most flexible financing method for all new projects individually or as a whole, depending upon the specific direction of the Board, or what is in the best financial interest of the Authority as a whole.

DEBT POLICIES

1. The Authority will utilize a balanced approach to capital funding utilizing debt financing, CIP planned current-year revenues (pay-as-you-go), and planned capital reserve fund transfers from the individual rate center reserves. In the planning stage of the overall funding of the capital improvement plan, the Authority will target a minimum amount of equity funding of 10% of the capital improvement plan on a five-year rolling average.

2. The Authority will analyze all sources of debt financing each time there is a need for debt including but not limited to: Virginia Clean Water Revolving Loan Fund, Virginia Resources Authority Bond Programs, Authority stand alone bond issues on a competitive and negotiated basis and short-term financing when needed and advantageous.

3. When the Authority finances capital improvements or other projects by issuing bonds or entering into capital leases, it will repay the debt within a period not to exceed the expected average useful life of the project(s) and equipment being financed.

4. When assessing capital project funding approaches and the issuance of debt, the Authority will conduct a series of financial analyses to demonstrate its financial ability to incur such debt under its current rate structure, and to determine if, when and to what degree rate structures need to be adjusted in the event that the current rate structure is not able to accommodate new additional debt.

5. From time to time, the City of Charlottesville and the Albemarle County Service Authority will provide the Authority with cost split allocation agreements. ~~Some of these agreements require costs per 1,000 gallon rates to be the basis for charging debt service costs. These agreements are reliant on estimations of future flows (from which we expect actual flows to vary year-to-year) in the calculation of future rates and eventual charges of revenues.~~ The Authority will produce charges on a fixed monthly basis (as changed per Amendment 1 of the Service Agreement 10/27/2015) to the best of its ability to conform to these agreements. ~~, and will encourage the City and the ACSA, whenever possible, to consider and adopt a fixed based rate structure for the debt service cost allocation agreements.~~ Prior to the cost agreement being adopted, the Authority will identify projects that should be considered to be subject to an existing cost allocation agreement or be ~~included~~incorporated into a new agreement. Until~~,~~ such time as an agreement is actually adopted, all projects not subject to a cost agreement will be allocated based on the flow allocation used in the annual budget process.

6. The Authority will review its current debt structure periodically as interest rates fluctuate and optional bond redemption dates arise for refunding or advance refunding opportunities. Refunding bonds are essentially refinancing of existing debt. Refinancing opportunities that can produce a net present value savings of 3.0 percent generally should be considered as beneficial to the Authority, although other factors should be taken into account. In certain circumstances, the Authority may -consider refunding bonds for restructuring purposes should an economic downturn or other extraordinary situation or otherwise suggest a need to realize cashflow restructuring.

7. The Authority will set rates and charges so as to target a minimum debt service coverage on all parity indebtedness of ~~[~~1.50~~]~~ times. By way of example, a debt service coverage ratio of 1.50 times means that for every $1.00 of parity indebtedness that is due from the Authority annually, the Authority has at least $1.50 in net revenues available ~~for debt service with which~~ to pay the debt service. (This calculation is included in the annual CAFR Table 8 of the Statistical Section)

RESERVE & FUND POLICIES

The Authority has several levels or tiers of reserves and funds/accounts. Mostly distinguished by bond requirements and purpose of use, the following are descriptions of the purpose, defined amounts if any, and restrictions if any on these funds and reserves.

1. The first tier reserves and funds/accounts are those required by the 1979 Bond Indenture of the Authority (as amended) that are restricted in use and held by the trustee. The reserves and funds/accounts required in this tier are strictly reviewed, enforced, and held by the Trustee. The Debt Service Reserve Fund must have a balance equal to the least of (i) the maximum amount of annual principal and interest payable on the bonds secured thereby, (ii) 125% of the average annual amount of principal and interest payable on the bonds secured thereby, and (iii) 10% of the stated principal amount the bonds secured thereby~~the maximum amount of principal and interest payable in the current or any future fiscal years~~. The Bond Fund includes the interest account, the principal account and any sinking fund accounts required. The Authority is required to deposit monthly one twelfth of the next annual principal payment and one sixth of the next semi-annual interest payment due into the Bond Fund. [SB1] Construction Fund (a.k.a bond proceeds account) proceeds amounts vary with bond issues and this fund is held by the Trustee as well.

The Authority's first priority relative to reserves will be to meet all requirements of these tier one reserves. The Authority will fix charges to maintain these funds at the appropriate level as required by the Bond Indenture.

2. The second tier funds or reserves are those required or disclosed within the 1979 Bond Indenture, but either allow the Authority to hold these funds, have more flexible required amounts or both. The Improvement Fund is not to drop below $500,000 and can be held by the Authority. This amount is actually in the Capital Fund mentioned below and is noted within the Authority's accounting system to not fall below the minimum. The Operating Fund (or operating account) is the Authority's daily cash account and is not accounted for by rate center. The operating account is recommended to have a minimum balance of 20% of the annual budget by the Bond Indenture but is not required to be maintained at this level. Currently the operating account ~~along with liquid accounts receivable~~ ~~are~~ is targeted to have 60 days of total annual budget available for daily and monthly cash flow needs.

   Other second tier funds are the Rate Stabilization Funds. These funds are ~~mentioned in~~ permitted by the Indenture but have no suggested limits or minimum requirements. The Authority has established a Rate Stabilization Fund (and it is included in the ~~Third Tier~~Third-Tier reserves below) for both Urban Water and Urban Wastewater rate centers in the amount described below.

3. Third tier reserves are those reserves internally restricted at the discretion of~~by~~ the Authority. Those include Discretionary Rate Center reserves for each rate center, a Capital Fund, Watershed Management reserves, and a Vehicle replacement reserve. Although the Rate Stabilization reserves are mentioned in the Bond Indenture and listed in the second tier of reserves, they are controlled and funded much like tier three reserves. These reserves are defined as follows:

   Discretionary Reserves – these reserves are central reserve depository for each rate center~~ and the Capital Fund~~. Planned depreciation from the operating budgets, yearly surpluses and planned excess rate revenues from the CIP Growth Rate are deposited in the reserves. Yearly deficits if they occur are also funded from these reserves to replenish the operating account. This is accomplished each year with the "Disposition of Year-end Results" and related Board action as recommended by staff. There is one reserve for each rate center, or a total of six reserves. Uses of these reserves are restricted to Board action for such items as normal rate stabilization to fund those years when deficits occur, the Capital Fund (described below) yearly planned transfers to fund the CIP from the Discretionary Reserve accounts, and significant repairs or changes in operations that otherwise would require a rate increase to fund them.

Capital Fund/Account – is similar to bond proceeds accounts. The funds in this account are for capital expenses only. The balance in this fund will fluctuate widely depending on the timing of bond issues as projects are funded and executed and functions much like a working capital account for capital cashflow needs. This fund should not be considered discretionary to fund unknown budget variances.

Rate Stabilization Reserves – The Urban Water and Urban Wastewater Rate Centers each have a rate stabilization reserve. In recognition of the volatility and variability associated with demand for its services, the Authority established a Rate Stabilization Reserve for the purposes of providing adequate revenues during extreme low flow periods of mandatory restrictions from severe drought conditions. Each reserve has $1,000,000 placed in it for use during extreme low flow periods resulting from required mandatory restrictions enacted by our two customers on their retail systems. This provides for a more consistent rate structure. These reserves should be used in addition to funds in the Discretionary Reserves, if available, in recognition that mid-year rate increases during severe drought conditions are undesirable.

Watershed/Water Quality Reserves – These reserves were set up in FY 2004 and were funded from the Urban Water rate center and will be considered each year in the budget cycle for continued funding. These reserves are to be used for water quality and watershed projects to preserve, protect or rehabilitate specific or targeted raw water resources of the Authority and is used at the Board's discretion. In FY 2010, the annual set aside was stopped; however, the reserve does still have funds available.

Vehicle Replacement Reserve – In FY 2009, this reserve was created to provide a balanced charge to the operating rate centers and support department's budgets. This reserve is intended to fund the replacement of vehicles and mobile equipment (restricted for that purpose) as these assets are depreciated. The Authority has roughly ~~$1.2~~ $2.4 million in vehicle and mobile equipment in inventory. Accounting guidelines allow vehicles to be depreciated over a ~~5 year~~5-year useful life; however, the Authority generally depreciates vehicles over 10~~8~~ years (some vehicles last longer than 10~~8~~ years while others last fewer years.) Major equipment is depreciated over a 15 year schedule. The charge to each rate center and support department is based on these depreciation schedules.

It is recommended that the Authority target a combined total of all Tier 2 and Tier 3 operating account and discretionary reserve funds equal to 150% of the Authority's Operating and Maintenance budget (not including annual Debt Service budgets) or the equivalent of 548 days operating cash on hand.

CONTINUING DISCLOSURE AND POST ISSUANCE COMPLIANCE POLICY

Background

Debt Issuance in General

Rivanna Water and Sewer Authority (the "Authority"), as an issuer of revenue bonded debt, notes or other obligations (Bonds), taxable and tax exempt, is considered an issuer of municipal securities for the purpose of raising funds from investors to finance the Authority's public purposed capital program. For that reason, the Authority is subject to various regulatory compliance requirements from numerous regulatory agencies such as the Securities and Exchange Commission (SEC) and the Internal Revenue Service (IRS).

The Municipal Securities Rulemaking Board (MSRB), which is subject to oversight by the SEC, is the regulatory body that creates many of the rules and regulations that govern the relationships between financial professionals, issuers and investors. The MSRB is also charged under the SEC R~~r~~ule 15c2-12 with providing rules and resources for the ongoing disclosures of information to investors about municipal securities including annual financial and operating data, in addition to notices of specific events that may have an impact on the value of the bonds held by investors.

This ongoing dissemination of information is generally recognized as the "Continuing Disclosure" requirements. Rules of the MSRB carry the weight of Federal Law and are applicable to the debt the Authority issues in a public offering, rather than a private placement with a bank or the Virginia Resources Authority (though the Authority may also undertake certain -continuing disclosure obligations in connection with the incurrence of such indebtedness). Such disclosures would be voluntary and supplemental to the Authority's existing continuing disclosure agreements. SEC Rule 15c2-12 was recently amended to require (for public bond offerings issued after February 2019) disclosure regarding the incurrence of material financial obligations (that would likely include most bank and VRA loans that the Authority undertakes).

Tax Exempt Debt

The Authority issues from time to time tax-exempt bonds. The proceeds of which are intended to be used by the Authority to finance or refinance the costs of various governmental projects, which projects may include, without limitation, components such as land, buildings and equipment (in the aggregate, the "Financed Facilities" and, for all project components financed with proceeds of a single issue of Bonds, a "Financed Facility"). The provisions of the Internal Revenue Code of 1986, as amended (the "IRC"), together with the regulations promulgated thereunder (the "Treasury Regulations" and collectively with the IRC, the "Tax Laws") impose requirements that must be met in order for interest on the Bonds to continue to be exempt from federal income taxation or to be entitled to certain other tax benefits while the Bonds are outstanding.

Other Debt Facilities

The Authority uses other means of obtaining debt financing for capital needs. The SEC and MSRB rules mentioned above do not apply directly to bond issues conducted through the DEQ Clean Water Revolving Loan Fund or the bond issues as part of the Virginia Resources Authority (VRA) Pooled Loan Programs which have been utilized recently by the Authority. However, there are annual disclosure requirements within these bond Financing Agreements that are very similar and are considered, internally, as continuing disclosure requirements. Additionally, bonds that are issued as nontaxable through these programs may have additional requirements to meet arbitrage and spending restrictions as required by VRA to enable it to comply with the IRS rules.

It is the policy of the Authority to comply with all appropriate tax laws, regulations and financing commitments that are applicable to the debt and securities utilized by the Authority for financing its capital needs, and to carry out such procedures to ensure compliance with such laws, regulations and financial commitments herein.

General

The Director of Finance and Administration is designated as the staff position assigned as the Compliance Officer responsible for the duties of reviewing and monitoring all compliance activities and procedures related to continuing disclosure and tax exempt regulatory commitments associated with the Authority's issuance and subsequent management of outstanding debt.

These duties include but are not limited to:

- Post issuance compliance procedures and systems in place will be reviewed on a periodic basis, but no less than annually to include a review of:
    - Financing Agreements for each VRA related bond
    - 1979 Indenture of Trust as supplemented
    - Certificates of Non-Arbitrage for each tax exempt bond

- o Continuing Disclosure Agreements for each public bond issue
- o Loan agreements or other similar documentation for any private placements with banks or other financial institutions
- o The financial policy and procedures set forth herein

- Coordinate all record retention requirements and activities in general to meet all state record retention laws and record retention requirements specific to IRS/Tax exempt bonds.
- Electronic media and file storage is the preferred method for all long-term archiving of documents. ~~Currently t~~Technology systems being used for all Authority archives ~~and~~ will be properly maintained and backed up periodically.
- Ensure proper training concerning post issuance compliance and meet periodically with bond counsel to ~~obtain~~ track any recent developments concerning tax law and municipal securities reporting and compliance.

The Accountant will share in these duties as delegated by the Director of Finance and Administration and will assume these duties in the absence of the Director. The HR/Office Manager and the IT Administrator will be delegated certain aspects of the record retentions and archive systems requirements.

Bond Issuance

At bond issuance and during the period in which the proceeds are being spent the Compliance Officer will:

- Obtain closing binder of the bond transcripts either electronically or hard copy or both from bond counsel.
- Work with bond counsel to identify the proper use of proceeds for qualified tax exempt bonds, the expected schedule for expenditure of such proceeds, the expected economic lives of the assets to be financed, and confirm that IRS form 8038-G for applicable issues is filed timely, as well as, all other matters related to the information to be represented or certified by the Authority.
- Ensure that proper procedures are in place to track and account for expenditures and any investments earnings of unused proceeds.
- Monitor compliance with expenditures of the proceeds for proper use of funds for reimbursements of prior costs and the spend-down requirements for the 6-month, 18-month, or 2-year spending exception~~s~~ and the 3 year anniversary for compliance with the "temporary period" for yield restrictions. The Authority currently uses the State Non-Arbitrage Program (SNAP) for this purpose (tax exempt bonds only).
- Invest temporary or construction proceeds in accordance with the trust indenture and state laws relative to restricted investments of public funds during the "temporary period" for such investments.

Tax Exempt Bonds

Bonds that are issued as tax exempt bonds have certain post issuance administrative compliance considerations unique for these bonds. Tax exempt bonds have requirements related to the 1986 provisions of the IRC as amended. The proper use, accounting, documentation and post issuance compliance requirements must be met in order for the interest on the bond to continue to be exempt, as stated before.

One of the more significant requirements are "yield restriction" rules. These~~is~~ rules ~~governs the need to~~ ensure that the proceeds of tax exempt bonds that have reduced rates of borrowing are not used to invest in higher yielding securities than the underlying debt. If such proceeds are used, and investment gains are higher than the yield restriction for a specific applicable bond, the "profit" in many circumstances may create a rebate liability and ultimately ~~could~~ may be ~~paid~~ payable to the US Treasurer. These rules are better known as arbitrage rebate rules.

The following procedures will be in place to monitor and comply with these requirements and arbitrage rebate rules:

- Working with bond counsel, ensure that the proper resolutions of official intent and bond resolutions are timely adopted by the Board of Directors for appropriate reimbursement requirements for any applicable project and confirm that previously paid expenditures intended to be reimbursed with bond proceeds are in fact eligible to be reimbursed under federal tax rules.
- Obtain computation of the "yield" of the bond from the financial advisor which is usually included in the closing binder.
- Establish accounts and accounting procedures to (1) track expenditures of the bond proceeds evidencing timing and allocation of expenditures for project costs and bond issue costs, if any, and ~~track~~ (2) investment returns for all proceeds of the bond used to establish debt service reserves (if required by the trustee), construction funds and sinking funds (including, but not limited to, escrow funds for refunded bonds), as appropriate.
- The Director of Finance and Administration will periodically review the tax certificate for each bond issue to determine if the actual facts relating to the use of proceeds of the bonds is substantially the same as the reasonable expectation contained in the bond issue documents. Any material deviations will be noticed to Bond Counsel to determine if any action is necessary for the interest on the bonds to remain exempt for Federal income tax purposes.
- ~~Establish accounts and accounting procedures to track the expenditures of the bond proceeds evidencing timing and allocation of expenditures for project costs and bond issue costs if any.~~

- Record retention specific to tax exempt bonds will be followed by retaining required documents until three years after the last bond has been retired. This will include, but is not limited to:
  - Bond transcripts
  - Documents evidencing expenditures (check images, invoices, bank statements) and the timing and allocation of bond proceeds to such expenditures
  - Documents evidencing proper use of Financed Facilities
  - Documents evidencing investment proceeds use and earnings
  - Documents evidencing all sources of payment or security for the bonds (i.e., revenues of the Authority)

- The Authority will contract with a qualified independent arbitrage rebate verification service provider to review all required calculations for the 5 year installment compliance reporting period applicable for each tax exempt bond. Additionally, the arbitrage rebate service provider will conduct an analysis and rebate calculations for all tax exempt bonds annually. This allows the Authority to be prepared prior to the fifth-year installment requirement in the event a rebate liability is a possibility.
- If at any time any trustee or other fiduciary holds a debt service reserve or similar fund in connection with any Bonds, the Compliance Officers shall annually review the status of such fund, including the investments of such monies and the uses of any earnings accruing thereon.
- In the event that a rebate liability is possible or inevitable, the Compliance Officer will consult with bond counsel and the trustee and take proper steps to ensure timely filing of the IRS Form 8038-T and arrange for payment of such rebate liability as applicable.
- Coordinate with bond counsel and trustee to arrange for timely computation of “yield reduction payments” as defined by the IRS Code, if applicable, in lieu of yield-restricting the investments.
- The Compliance Officer shall be responsible for determining when all proceeds of any issuance of Bonds have been spent (other than those held in qualifying bond/debt service funds or debt service reserve funds, if any) and shall take steps to close out with reasonable promptness all project and similar funds containing proceeds of Bonds (including investment earnings thereon). If any proceeds together with investment earnings (together, “Remaining Proceeds”) remain after paying all expected costs of the projects financed, the Compliance Officer shall consult with Bond Counsel as to possible ways to expend such proceeds and as to their investment and use, with the goal of spending all Remaining Proceeds as promptly as possible.
- The Compliance Officer also shall check with Bond Counsel regarding any allocations or other elections that the Authority should make with respect to the use of the proceeds of the relevant Bonds. Within 60 days of the final expenditure or other disposition of all Remaining Proceeds, the Compliance Officer shall prepare

a written report on the expenditure of all proceeds of the Bonds (inclusive of investment earnings), including the use of such proceeds and the schedule of such expenditures, together with any allocations or elections made in connection therewith. Such report also shall address whether rebate must be calculated and paid and on what schedule.

- The Compliance Officer shall consult with Bond Counsel as appropriate if at any time the Authority undertakes to consider any refunding of Bonds or any defeasance or other payment of Bonds other than in the ordinary course of business.
- An important goal of the Procedures is to ensure that there is no threat to the tax status of any Bonds because of impermissible private business use or private payment or "security" under the Tax Laws. Such ~~threat can occur~~ favorable tax treatment may be jeopardized if more than 10% (or 5% in the case of unrelated or disproportionate use) of the proceeds of any Bonds are utilized for Financed Facilities that are owned by or otherwise impermissibly used by any entity that is not a state or local governmental entity. Such private business use can be created by leases, special entitlements and management contracts (see Revenue Procedures 97-13, 2016-44 and 2017-13). Any such private business use is referred to herein as "Bad Use." Bad Use can also result from entering into private – Operator Management Contracts. The Authority will consult bond counsel in the event there is a disposition or alternate use of the Financed Facilities. The Authority has no intention to ever use such facilities other than for ~~its~~ their original purpose.
- The Compliance Officer shall provide a copy of these Procedures and any amendments and supplements to the Authority's auditors and shall instruct such auditors to report to the Compliance Officer any matters the auditors believe relevant to the matters addressed by these Procedures.

Continuing Disclosure and Post Issuance Compliance

Any bond of the Authority sold through a public offering must comply with the SEC Rule 15c2-12 (The Rule). These rules are concerned with providing annual financial information and notices of ~~material~~ certain event notices.

Other bonds that the Authority issues are considered private placement bonds (e.g. Banks or VRA) and do not fall under the SEC regulatory purview. However,~~;~~ in certain instances, these ~~taxable~~ bonds must comply with ~~specific~~ similar ~~annual~~ reporting requirements ~~as well that are similar requirements~~.

Each bond issue (with the exception of certain private placements to banks) will have a specific "Continue Disclosure Agreement" and/or "Financing Agreement" executed by the Chair of the Board of Directors at closing that will set forth the Authority's continuing disclosure obligations with respect to the applicable bond(s). In some instances, the disclosure requirement may be contained in the supplemental indenture providing for the issuance of a bond. Some of the requirements may change over time for each specific bond issue. The following procedures are meant to be a detailed yet general guide to the Authority's commitment to meet all disclosure and post issuance requirements.

Annual Disclosures

The Authority annually will file with the Municipal Securities Rulemaking Board ("MSRB") –the financial information and operating data described below within 210 days after the end of the fiscal year (or sooner if so required by applicable law or the terms of the Authority's continuing disclosure undertakings).

- Audited financial statements of the Authority, the City of Charlottesville, Virginia (the "City"), and the Albemarle County Service Authority (the "Service Authority"), prepared in accordance with generally accepted accounting principles~~; and~~.
- With respect to the Authority, the operating data substantially of the type described in the subsections of the Authority's most recent Official Statements entitled "Current Supply and Treatment Capacities" and "Operating Summary" noted within the Section entitled "The Authority" and the section entitled "Authority's Rates and Charges", or under sections bearing similar headings and describing similar information with respect to the Authority and its operations.
- With respect to the City's water and sewer system, (A) monthly rate schedules and (B) the ten largest customers of such systems detailed by name, cubic feet of water consumed and annual billings~~; and~~.
- With respect to the Service Authority's water and sewer systems, (A) monthly rate schedules and (B) the ten largest customers of such systems detailed by name, gallons of water consumed and percentage of total water sales.
- All Official Statements must be available directly from the Authority through MSRB.

If the financial statements filed pursuant to the Rule are not audited, the Authority will file such statements as audited when available.

The Authority shall, in a timely manner, provide notice of a failure to provide any required annual financial information or operating data on or before the date(s) specified in its continuing disclosure agreements.

Event Disclosures

To the extent such requirements are set forth in the Authority's operative Continuing Disclosure Agreements or other agreements, ~~T~~the ~~Issuer~~ Authority shall file with the MSRB in a timely manner not in excess of ten business days after the occurrence of the event, notice of the occurrence of any of the following events with respect to publicly offered Bonds:

- principal and interest payment delinquencies
- non-payment related defaults, if material
- unscheduled draws on debt service reserves reflecting financial difficulties
- unscheduled draws on any credit enhancement reflecting financial difficulties
- substitution of credit or liquidity providers, or their failure to perform
- adverse tax opinions; the issuance by the IRS of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701- TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events affecting the tax status of the Bonds
- modifications to rights of the holders of the Bonds, if material;
- bond calls, if material, and tender offers
- defeasance of all or any portion of the Bonds
- release, substitution, or sale of property securing repayment of the Bonds, if material
- rating changes
- Bankruptcy, insolvency, receivership or similar event of the ~~Issuer~~Authority
- The consummation of a merger, consolidation, or acquisition involving the ~~Issuer~~ Authority or the sale of all or substantially all of the assets of the Authority ~~Issuer~~, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material

- Appointment of a successor or additional trustee or the change of name of a trustee, if material

- Incurrence of a financial obligation (as defined below) of the Authority, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a financial obligation of the Authority, any of which affect security holders, if material

- Default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a financial obligation of the Authority, any of which reflect financial difficulties[KC2]

The term "financial obligation" as used herein means a: (A) debt obligation; (B) derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (C) a guarantee of (A) or (B). The term "financial obligation" shall not include Authority bonds as to which a final official statement has been provided to MSRB consistent with the Rule.

Any filing required as detailed in this policy will be made by transmitting such disclosure, notice or other information in electronic format to the MSRB through the MSRB's Electronic Municipal Market Access (EMMA) system pursuant to procedures promulgated by the MSRB. The Authority does have such an account set up for such filings.

Post Issuance Compliance – Other Debt Facilities

The Authority utilizes other programs for issuing bonds such as the Virginia Resources Authority's (VRA) Pooled Financing Program and the Virginia Clean Water Revolving Loan Fund. Bonds through these programs can be taxable or non-taxable and do not have the same requirements as previously mentioned. However, these programs do have post issuance obligations that the Authority will meet.

Notable requirements are as follows:

- An Annual Budget shall be promptly submitted to the VRA upon adoption and prior to the beginning of each Fiscal Year.

- A Qualified Independent Consultant Report shall be obtained by the Authority ONLY if at the end of any fiscal year~~,~~ the Authority is not in compliance with the rate covenant specified in the Local Agreement of Trust section 702. The report will include recommendations as to the proper maintenance and operation of the system and estimation of costs thereof and the rates, fees and other charges which should be established by the Authority to satisfy the rate covenant. The report shall be submitted to the VRA within 210 days after the end of such fiscal year.

- Certificates of Insurance evidencing the comprehensive general liability insurance as required by section 910 of the Local Agreement of Trust. The combined single limits of liability must be $2,000,000 [SB3]or more. Workers compensation insurance and full replacement cost insurance of the system must be included on such Certificate.

- The Comprehensive Annual Financial Report (CAFR) must be audited in accordance with the Local Agreement of Trust section 911. This report shall be prepared within 180 days of the end of the fiscal year and submitted to VRA immediately upon completion. The CAFR shall include a supplemental schedule demonstrating whether the Authority satisfied the rate covenant of the financing agreements and section 702 of the Local Agreement of Trust.

- A Certificate of No Default signed by the Director of Finance and Administration stating that during the previous fiscal year, no event or condition has happened, or is happening or exists, which constitutes an Event of Default or Default on any outstanding obligations of the Authority. The nature of such events if any must be stated, and what actions have been taken. This certificate is due to the VRA 180 days after the close of the fiscal year.
  [SB4]

- The Authority must provide prompt notification to VRA of (a) the existence and status of any litigation that the Authority's general counsel determines is not reasonably certain to have a favorable outcome and which individually or in the aggregate could have a material adverse effect on the financial condition or operations of the system or the Authority's ability to perform its payment and other obligations under the VRA financing agreements and related bonds or (b) any change in any material fact or circumstance represented or warranted in any of the VRA financing agreements.

MEMORANDUM

TO:	**RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**
FROM:	**JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE**
REVIEWED BY:	**BILL MAWYER, EXECUTIVE DIRECTOR**
SUBJECT:	**CAPITAL IMPROVEMENT PLAN AMENDMENT AND APPROVAL OF ENGINEERING SERVICES – MOORES CREEK 5KV ELECTRICAL SYSTEM UPGRADE – HAZEN & SAWYER**
DATE:	**AUGUST 25, 2020**

Through the ongoing Moores Creek Facilities Master Plan, it was identified that several areas of the Moores Creek Advanced Water Resource Recovery Facility (MCAWRRF), including the Blower Building, Sludge Pumping Building, Grit Removal Building, Moores Creek Pumping Station, the Duty Station, and the Administration Building are all still connected to the original 5kV switchgear in the Blower Building. This cabling, switchgear, and several Motor Control Centers (MCCs) around the facility were installed around 1980. Electrical equipment of this nature has a useful life expectancy of 20-30 years. With the equipment having served the MCAWRRF for 40+ years and exceeded its useful life expectancy, it was recommended by Hazen & Sawyer that RWSA should expedite the exiting Capital Improvement Plan (CIP) project associated with this work effort to replace the aging infrastructure, including 1980-vintage 5kV cabling, switchgears, MCCs, and transformers across the facility. This project is currently listed in the CIP to begin in FY 25.

The primary concerns associated with the aging 5kV infrastructure are associated with overall site safety, reliability, and resiliency. The 5kV system supports critical treatment processes around the facility, and failure of the existing 5kV infrastructure could result in temporary outages of these processes. Emergency repairs could take weeks to months given the lead times associated with equipment of this age.

RWSA entered into a term agreement with Hazen & Sawyer on March 4, 2019 for Professional Wastewater Plant Engineering Services. Under this contract, Hazen & Sawyer would provide Professional Engineering Services for the Moores Creek AWRRF 5kV Electrical System Upgrade Project to include design, permitting, and bidding phase services. In addition, Hazen & Sawyer would also provide Construction Administration and Inspection Services during the construction phase of the project.

Board Action Requested:

Staff requests that the Board of Directors:

1. Amend the Capital Improvement Plan for Fiscal Years 2021 - 2025 to include a budget increase for the Moores Creek AWWRF 5kV Electrical System Upgrade of $4,100,000 for Fiscal Years 2021 to 2024. This amendment would bring the total budget for the Moores Creek AWRRF 5kV Electrical System Upgrade Project to $4,600,000.

2. Authorize the Executive Director to execute a work authorization with Hazen & Sawyer for Professional Engineering, Construction Administration and Inspection Services for the Moore Creek AWRRF 5kV Electrical System Upgrade Project for a total value not to exceed $642,025, and any amendments needed to complete the design, permitting, bidding, and construction administration of the improvements identified above, not to exceed 10% of the original contract amount.

RIVANNA WATER & SEWER AUTHORITY
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MEMORANDUM

TO:	**RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**
FROM:	**JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE**
REVIEWED BY:	**BILL MAWYER, EXECUTIVE DIRECTOR**
SUBJECT:	**CONSTRUCTION CONTRACT AWARD AND CAPITAL IMPROVEMENT PLAN AMENDMENT– SUGAR HOLLOW DAM RUBBER CREST GATE REPLACEMENT**
DATE:	**AUGUST 25, 2020**

In 1998, the Sugar Hollow Dam underwent a significant upgrade to improve structural stability and spillway capacity. The original metal spillway gates were replaced with a manufactured five-foot-high inflatable rubber dam that was bolted to the existing concrete structure. This rubber dam allows for the normal storage of water in the reservoir with the ability to be lowered during extreme storm events for a controlled release of water from the reservoir. The rubber dam has an approximate service life of twenty years and is therefore now due for replacement.

A Request for Bids was issued on June 30, 2020, and a virtual pre-bid conference was held on July 8, 2020. Construction bids were opened on August 11, 2020. Five bids were received for the project ranging from $1,430,000 to $3,645,480. Contractors were given the option to submit an alternate bid cost for the project, utilizing their own means and methods for accessing the reservoir for the bladder construction. One alternate bid was received for $1,410,875 from Allegheny Construction Co., Inc.

Schnabel Engineering has reviewed the alternate bid received from Allegheny, finds that their proposal meets the project specifications, and has verified that the bid and attached documents are both responsive and responsible. Therefore, Schnabel is recommending award to Allegheny Construction Co., Inc as the apparent low bidder for a contract price of $1,410,875.

The current Capital Improvement Plan budget for this project is $1,700,000 including an estimated construction cost for the replacement of the rubber crest gate and necessary electrical and mechanical equipment of $1,288,000. Based on the range of bid prices received, Schnabel Engineering and staff believe the pricing provided is in accordance with the current market value for the work. Incorporating Allegheny Construction Co.'s bid value of $1,410,875 represents an increase to the CIP Budget of $200,000.

Board Action Requested:

Staff requests that the Board of Directors:

1. Authorize the Executive Director to award a construction contract to Allegheny Construction Co., Inc. for a total value of $1,410,875 for the Sugar Hollow Dam Rubber Crest Gate Replacement Project, and any change orders up to 10% of the original contract amount.

2. Amend the Capital Improvement Plan for Fiscal Years 2021 - 2025 to include a budget increase for the Sugar Hollow Dam Rubber Crest Gate Replacement Project of $200,000. This amendment would bring the total budget for the Sugar Hollow Dam Rubber Crest Gate Replacement Project to $1,900,000.

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MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: APPROVAL OF ENGINEERING SERVICES – SOUTH FORK RIVANNA RIVER CROSSING PROJECT – MICHAEL BAKER INTERNATIONAL

DATE: AUGUST 25, 2020

RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 29 Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl's department store. To complete the connection between the SRWTP and the new 24-inch water main in Rt. 29, there is a need to construct a new river crossing at the South Fork Rivanna River which is anticipated to be located in between the South Rivanna Dam and the Berkmar Bridge.

In order to take this project from the master planning phase through construction, staff has negotiated a scope, fee and schedule with Michael Baker International under the firm's term contract to perform preliminary engineering, geotechnical investigations, survey, final design, permitting, bidding, construction administration, and limited construction observation services for approximately 3,500 linear feet of new water line associated with the South Fork Rivanna River Crossing Project. The scope of work also includes the submission of a Joint Permit Application but does not include a mussel survey, should it be required.

Board Action Requested:

Staff requests that the Board of Directors authorize the Executive Director to execute a work authorization with Michael Baker International for preliminary engineering, geotechnical investigations, survey, final design, permitting, bidding, construction administration, and limited construction observation services for the South Fork Rivanna River Crossing Project, for an amount not to exceed $425,000, and any amendments needed to complete the design, permitting, bidding, and construction administration and observation of the improvements identified above, not to exceed 10% of the original contract amount.

695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

434.977.2970
434.293.8858
www.rivanna.org

MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **CONSTRUCTION CHANGE ORDER AUTHORIZATION – ALBEMARLE-BERKELEY WASTEWATER PUMP STATION STORAGE BASIN DEMOLITION**

DATE: **AUGUST 25, 2020**

The Albemarle-Berkley Wastewater Pump Station is located adjacent to a former open-air basin on the Albemarle County Public Schools (ACPS) Campus on Lambs Lane. The basin originally served as a small filter-based wastewater treatment plant prior to the construction of the pumping station but was converted to an emergency storage facility in the 1970s that occasionally collected raw sewage during power outages. With the addition of a back-up power generator in 2006, the basin no longer served a technical purpose. Given the proximity of the deteriorating structure to school property, this project served to demolish and fill the area of the existing basin to allow for a more beneficial use of the property. Design of the basin demolition was completed in March 2020, and demolition work began in July 2020. Demolition work was completed in August 2020, with site restoration activities ongoing.

During the course of the project, the Contractor (Pleasant View Developers, Inc.) discovered additional fill to be removed below the converted storage basins that once served as sand filter media. They also removed 100 additional linear feet of abandoned ¾” waterline from the site that was unforeseen. As such, Pleasant View Developers has requested a Change Order in an amount not to exceed $7,035, which is greater than the board authorized 10% increase of $6,264.50.

<u>Board Action Requested:</u>

Authorize an increase in construction funding for the Albemarle-Berkeley Wastewater Pump Station Storage Basin Demolition Project of $770.50. This would bring the total board authorized contingency to $7,035.

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MEMORANDUM

TO:	**RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**
FROM:	**BILL MAWYER, EXECUTIVE DIRECTOR**
SUBJECT:	**AMENDMENT OF BYLAWS TO UPDATE THE PURCHASING LIMITATIONS OF THE EXECUTIVE DIRECTOR**
DATE:	**AUGUST 25, 2020**

It is requested that the Bylaws be updated to reflect updates made to the Purchasing Manual, which were approved by the Board on June 23, 2020. The updates included an increase to the aggregate amount of a contract that the Executive Director can approve without Board approval; the total increased from $100,000 to $200,000.

In accordance with the Bylaws, Article VI, the Board may amend the Bylaws provided that the notice of the proposed amendment is given in the notice of the meeting, and all members of the Board are present at the meeting.

<u>Board Action Requested:</u>

We recommend approval of the amended RWSA Bylaws to increase the aggregate amount of a contract the Executive Director is allowed to approve from $100,000 to $200,000 to bring the Bylaws in conformance with the current Purchasing Manual.

Attachment

BY-LAWS OF

RIVANNA WATER AND SEWER AUTHORITY

(Effective August 25, 2020)

ARTICLE I

OFFICES

1. The principal office of the Rivanna Water and Sewer Authority (the "Authority") shall be in Charlottesville or Albemarle County, Virginia, at 695 Moores Creek Lane, Charlottesville, Virginia 22902 or at such particular place as shall be fixed from time to time by resolution of the Board of Directors (the "Board").

2. Except as otherwise required by resolution of the Board, or as business of the Authority may require, all of the books and records of the Authority shall be kept at the office as designated above.

ARTICLE II

DIRECTORS

1. The Authority shall have a Board of Directors. All corporate powers shall be exercised by or under the authority of, and the business and affairs of the Authority managed under the direction of, its Board of Directors, pursuant to the provisions of the Articles of Incorporation and Sections 15.2-5113 and 5114 of the Code of Virginia. Directors shall be appointed or elected in the manner and for the term set forth in the Articles of Incorporation.

ARTICLE III

OFFICERS

1. The officers of the Authority shall be a Chair, a Vice-Chair, and a Secretary-Treasurer. An election will be held at the regular April Board meeting in even-numbered years

with the duly elected officers assuming office as of May 1 for a term of two years and such officers may succeed themselves indefinitely.

2. The Chair shall be the presiding officer of the Authority. Unless some other person is specifically authorized by procedures or instructions adopted by vote of the Board, and except as otherwise provided in Article III, Section 5 below, the Chair shall sign all contracts and other instruments to be executed on behalf of the Authority. The Chair shall perform all the duties and have such other powers as the Board may from time to time designate. The Chair shall be a member of the Board.

3. The Vice-Chair shall perform all the duties of the Chair in the event of the Chair's absence or incapacitation or in the event of the Chair's office falling vacant and also perform such tasks as the Chair or the Board may assign from time to time. The Vice-Chair shall be a member of the Board.

4. The Secretary-Treasurer or his or her designee shall attend all meetings of the Board and act as secretary or clerk thereof; such person shall record all votes and keep accurate records of all proceedings at such meetings in a minute book to be kept for that purpose, which shall be open at all reasonable times to the inspection of any member or any other person authorized by law. The Secretary-Treasurer or his or her designee shall keep in safe custody the official seal of the Authority and shall have authority to affix such seal to all papers authorized to be executed by the Authority requiring such seal to be affixed. The Secretary-Treasurer shall have authority to cause copies to be made of all minutes and other records and documents of the Authority and to give certificates under the official seal of the Authority to the effect that such copies are true copies, and all persons dealing with the Authority may rely upon such certificates.

The Secretary-Treasurer or his or her designee shall perform all the duties commonly incident to the office of secretary or clerk and shall perform such other duties and have such powers as the Board may from time to time designate. In the absence of the Secretary-Treasurer and/or his or her designee from any meeting of the Board, a temporary secretary may be chosen who shall record the proceedings thereof.

Subject to the provisions of any trust agreement securing revenue bonds, bond anticipation notes, or other financial obligation of the Authority, the Secretary-Treasurer or his or her designee shall have the care and custody of the funds of the Authority and shall have and exercise, under the supervision of the Board, all the powers and duties commonly incident to the office of treasurer. The Secretary-Treasurer shall be selected by the Board and may or may not be a member of the Board.

5. There shall be an Executive Director who shall be the chief administrative officer of the Authority and shall be selected from a list of qualified individuals by vote of the Board. The Executive Director, acting on request of the Chair, shall cause notice to be given of all meetings of the Authority as required by law or by these By-Laws. The Executive Director is authorized to sign contracts to be executed on behalf of the Authority provided: (i) the aggregate amount of the contract is $200,000 or less; (ii) the term of the contract is one year or less; and (iii) funds required for payment terms of the contract have been authorized by the Board through adoption or amendment of the annual operating budget.

6. In addition to the officers above mentioned, the Board may provide for such deputies, assistants and other officers as it may deem necessary from time to time, who shall perform such duties and have powers as the Board may designate.

ARTICLE IV

MEETINGS OF THE AUTHORITY

1. Meetings of the Board may be called by the Chair, or in the event of the Chair's absence from the Commonwealth or incapacity, by the Vice-Chair, for such time and at such place in the Commonwealth as may be specified in the call.

2. Regular meetings of the Board will be held at the Authority's Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia, at 2:15 p.m. on the fourth Tuesday of each month, or at such other place as the Board may designate from time to time. Public notice of such meetings will be required only if the time and/or place of such meetings is changed for any reason.

3. Meetings in addition to the regular meeting may be called by the Chair, or the Vice-Chair when acting for the Chair under the conditions stated above, for such time and at such place in the Commonwealth as may be specified in the call, provided written notice of such meeting is delivered to the Board members, left at their residence or usual place of business, or delivered by electronic mail not less than forty-eight hours prior to the date and time specified for such meeting. In addition, the Executive Director shall take such measures as may be necessary to make sure that news media and the public have at least twenty-four hours notice of any meeting.

4. In the event that the officer issuing the call for a special meeting declares an emergency to exist, the notice required shall be three hours, provided that the declaration of emergency is approved by vote of the Board members at that special meeting.

5. The notification of Board meetings at which subject matter is discussed and/or acted upon by the Authority in compliance with the requirements of Title 15.2, Code of Virginia (Virginia Water and Waste Authorities Act) will be as specified in that document.

6. All Board meetings shall be open to the public, except when pursuant to the provision of Section 2.2-3711 of the Code of Virginia, the Board members have voted to hold a closed meeting and no resolution, rule, contract, regulation, or motion discussed in such closed meeting shall become effective unless the Board members reconvene in open meeting and take a vote on such resolution, rule, contract, regulation, or motion.

7. At meetings of the Board the following order of the business shall be observed, in general, as far as is consistent with the purpose of the meeting:

a. Reading, correction, and approval of the minutes of the preceding meeting.

b. Items from the public, except matters on the agenda for which a public hearing has been called, and responses from Board or staff to public comments.

c. Consent agenda, to include regular staff reports on expenditures, operations, and capital projects.

d. Other business, including unfinished business.

8. The vote on the adoption of every resolution shall be by ayes and nays. The names of the Board members voting for or against the resolution shall be entered upon minutes of the meetings, unless the vote be unanimous, in which case the minutes will so state.

9. A majority of the members of the Board shall constitute a quorum but the vote of the majority of the total members shall be necessary for any action, other than procedural matters, to be taken by the Board.

10. A Board member may designate an alternate to attend meetings the member is unable to attend. Such alternates may take part in any deliberations of the Board but may not vote on any matter and may be excluded from any closed meeting.

11. A Board member may participate in a Board meeting through electronic communication from a remote location, subject to the conditions of § 2.2-3708.1 of the Code of Virginia and the Board's policy for remote participation as set forth below:

a. At least four hours prior to the scheduled time for the Board meeting, the Board member desiring to participate remotely shall notify the Chair in writing, which may be by e-mail or text message, and shall identify with specificity the nature of the reason as to why remote participation is necessary. Permitted reasons shall be limited to (i) an emergency, (ii) a personal matter, or (iii) a temporary or permanent disability or other medical condition that prevents the member's physical attendance. The specific nature of the reason and the remote location from which the Board member participated shall be recorded in the minutes of the meeting.

b. No Board member may participate remotely in more than two Board meetings per calendar year; provided, however, such limitation shall not apply to remote attendance due to temporary or permanent disability or other medical condition that prevents the Board member's physical attendance.

c. The Authority shall have arranged for the voice of the remote participant to be heard by persons present at the meeting location, including other Board members, and the public. The Authority shall be capable of monitoring the remote connection and record in the minutes both the time the remote participation was connected and the time disconnected, and the minutes shall clearly record the vote of the remote participant on all voting matters during the remote participation.

d. A quorum of Board members shall be physically present at the meeting location in order for Board actions to be considered or taken, however, voting by remote participation may count toward determining that the majority of members voted for or against a particular action as described in Section 9 of this Article IV.

e. In the event a Board member's remote participation is disapproved by the Chair or the Board because such participation would violate the terms and conditions of this Section 11, such disapproval and the reason therefor shall be recorded in the minutes.

ARTICLE V

OFFICIAL SEAL

The official seal of the Authority shall consist of the embossed impression of a circular metallic disc containing in the outer rim the words "Rivanna Water and Sewer Authority." The Secretary-Treasurer or his or her designee shall secure such seal and cause the impression thereof to be made on the minutes of the meetings of the Board.

ARTICLE VI

AMENDMENTS

Except as otherwise provided by law, these By-Laws may be amended, added to, altered, or repealed in whole or in part by the Board at any meeting, provided that notice of the proposed amendment, additions, alteration or repeal is given in the notice of such meeting and that all members of the Board are present at such meeting.

ARTICLE VII

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Adopted August 25, 2020

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BY-LAWS OF

RIVANNA WATER AND SEWER AUTHORITY

(~~Proposed~~ Effective ~~May 1~~August 25, ~~2016~~2020)

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Adopted ~~April 26~~**August 25**, ~~2016~~**2020**

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Document comparison by Workshare 10.0 on Wednesday, August 19, 2020 2:08:50 PM

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~~Moved from~~	
Moved to	
Style change	
Format change	
~~Moved deletion~~	
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Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
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Insertions	6
Deletions	7
Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	13

Crozet Water System Plan

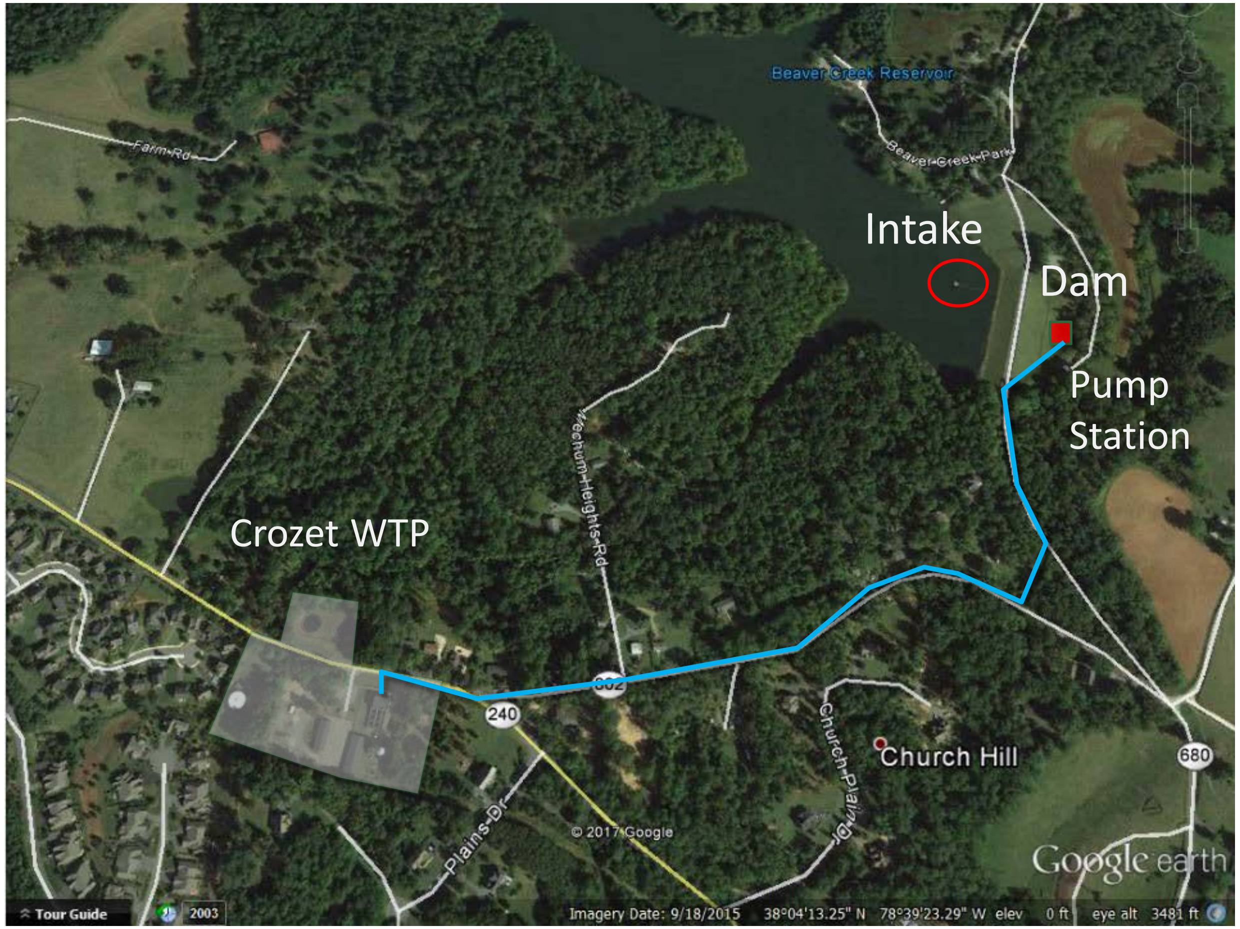
RWSA BOARD OF DIRECTORS

Jennifer Whitaker, Director of Engineering & Maintenance

August 25,2020

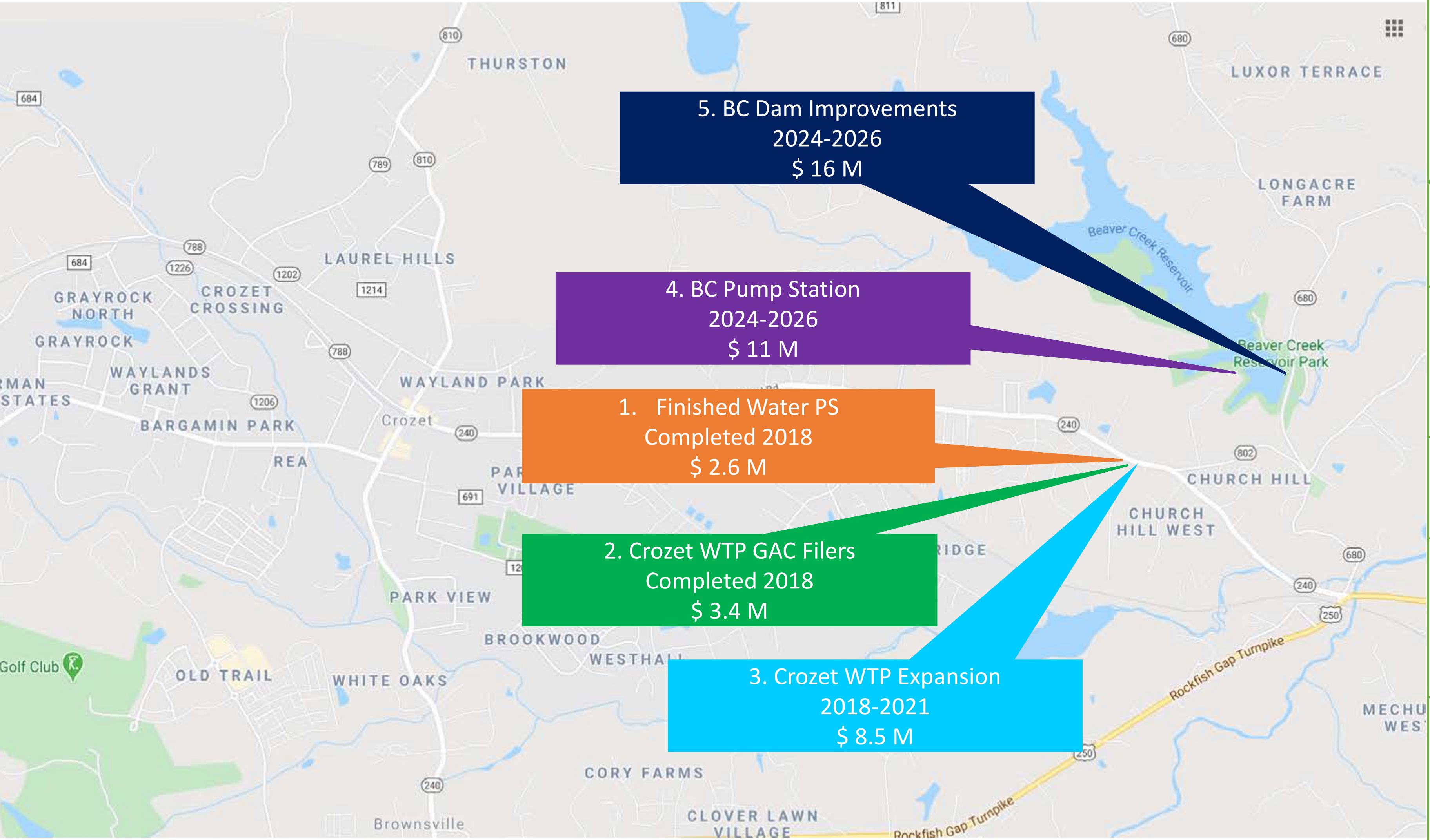
Current RWSA Facilities - Crozet Area

- Beaver Creek Dam
- Raw Water Intake & Pump Station
- Raw Water Pipeline
- Crozet Water Treatment Plant
- Finished Water Pump Station
- Finished Water Piping
- Buck's Elbow Tank



Drinking Water Infrastructure Plan

- Master Plan completed 2019 & updated 2020
- Beaver Creek Reservoir is an adequate water supply
- Water withdrawal permits are required from the Virginia DEQ
  - Includes a downstream release from the reservoir
- WTP capacity to increase from 1 to 2.1 MGD by 2020 to serve community's increasing maximum day demand
- Beaver Creek Dam requires significant upgrade to meet recent dam safety requirements
- A new raw water pump station is needed
- Water distribution piping projects will be required



Crozet Water Projects Capacity & Dam Safety

1. Finished Water PS Completed 2018	$2.6 M
2. Crozet WTP GAC Filters Completed 2018	$3.4 M
3. WTP Expansion 2018-2021	$ 8.5 M
4. Beaver Creek Pump Station 2024 - 2026	$11 M
5. Beaver Creek Dam Improvements 2024 - 2026	$ 16 M
	$41.5 M

Finished Water Pump Station

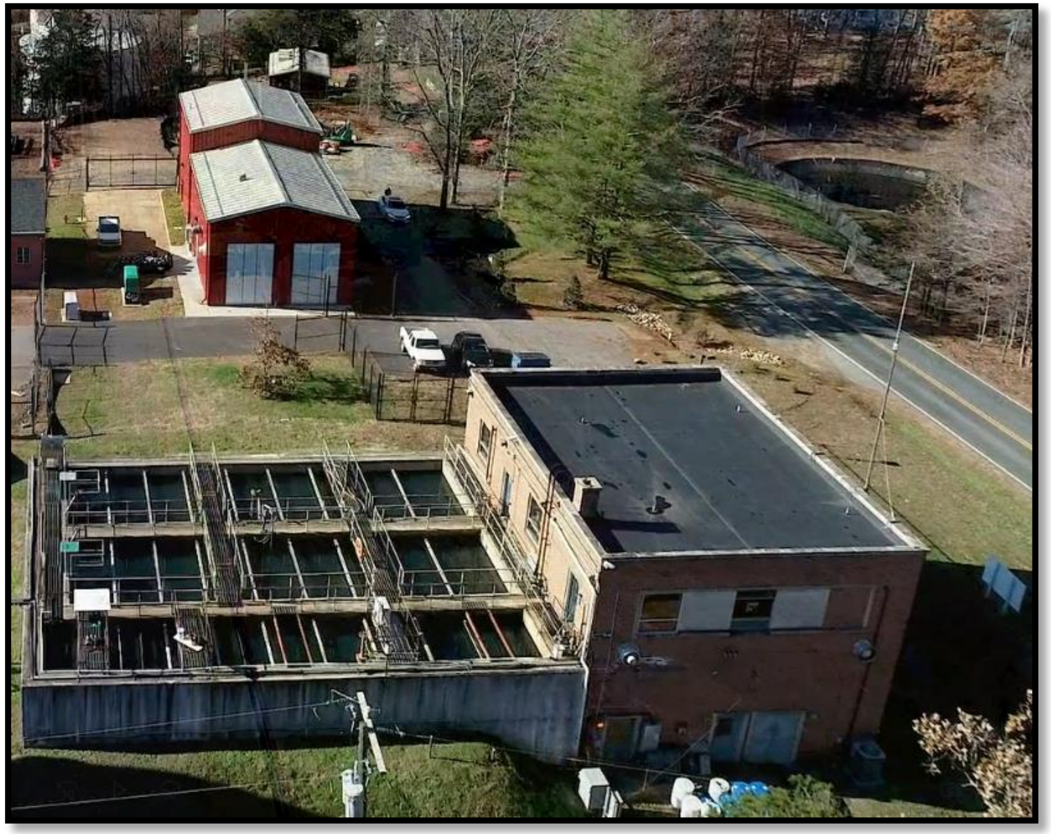
- Completed September 2018
- Cost: $2.6 M

Granular Activated Carbon Filters

- Remove organic material to minimize disinfection byproducts
- 2 – 20,000 lb Contactors
- 1 MGD Capacity
- Completed: April 2018
- Cost: $3.4 M

Water Treatment Facility Upgrade

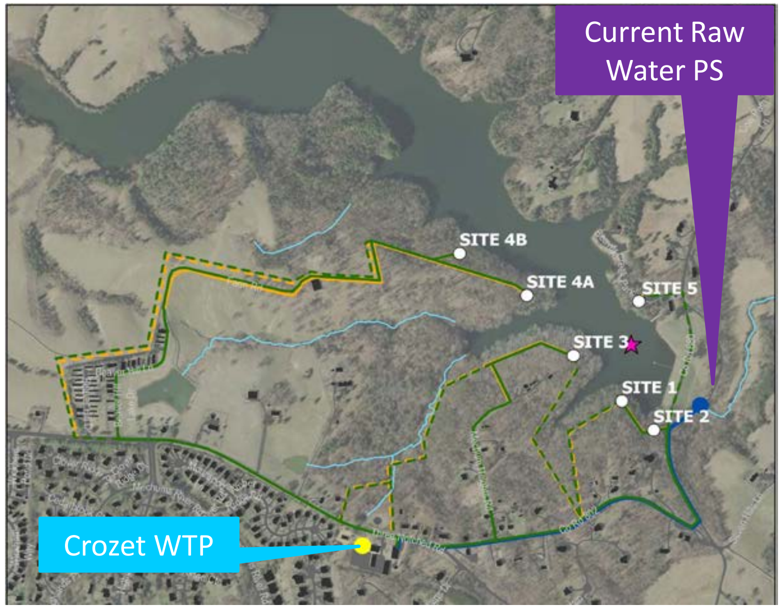
- Construction: December 2018 - December 2022
- Cost: $8.5 M

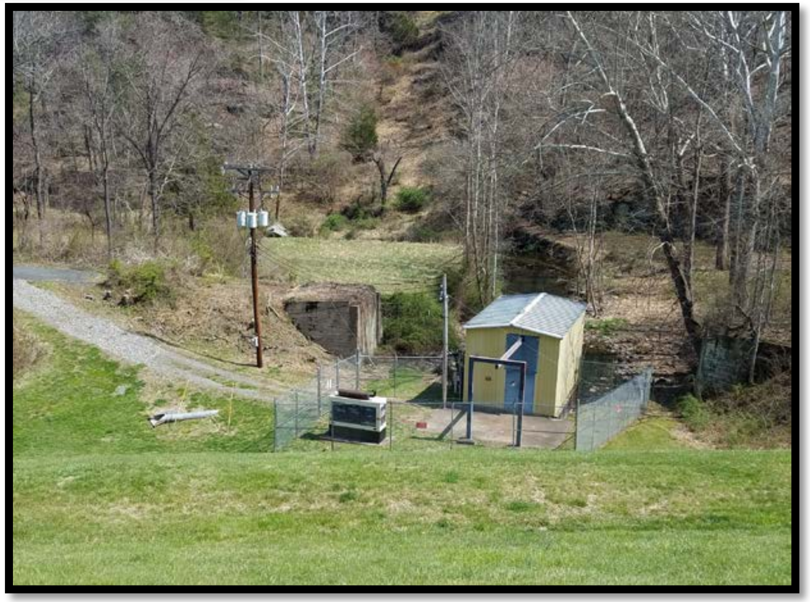


Beaver Creek Dam, Pump Station & Piping Modifications

- Upgrade the spillway to meet DCR dam safety standards
- Replace the raw water pump station, intake, and pipe to the Crozet WTP
- Cost: $27 M
- Completion: 2024 - 2026

Proposed Spillway





Existing Raw Water Pump Station

Questions?

695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
434.977.2970
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MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: ANDREA B. TERRY, WATER RESOURCES MANAGER

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: BUCK MOUNTAIN MASTER PLAN

DATE: AUGUST 25, 2020

This memo and presentation are to review the findings of a recently completed Buck Mountain Master Plan for the 1314-acre property along Buck Mountain Creek, owned by the Authority since 1987. The property was originally purchased for construction of a water supply reservoir. However, due to environmental restrictions imposed when an endangered species was located on the property, the James spinymussel, a regulatory permit could not be obtained. A significant portion of the property, 600 acres, was placed in restrictive use deeds in 2014 to mitigate the environmental impacts from construction of the expanded Ragged Mountain reservoir.

At the April 2019 Board meeting, a former property owner, Dr. Harry Wellons, requested the Board to consider selling him the Buck Mountain property RWSA acquired from him by condemnation in the 1980's. As a follow-up to this request, staff provided a presentation on the Buck Mountain property at the June 2019 Board meeting. During the June meeting, the Board requested staff to prepare a Buck Mountain Master Plan to consider possible uses of the property.

A local planning consultant, Land Planning & Design Associates, was hired to complete the Master Plan. After an extensive review of the topography, zoning, access, restrictions and potential beneficial uses of the property, the attached Master Plan was completed. Recommendations for continued use of the property include:

1. The property should be retained by the Authority to:
   - Ensure the required maintenance of the existing conservation easements is provided
   - Provide source water protection in the watershed of the S. Rivanna reservoir
   - Consider potential sustainability benefits through silviculture, solar, or other similar property uses.
   - Preserve the feasibility of a future water supply reservoir.

2. A property management plan and budget should be implemented. A plan is needed to maintain, repair or remove the vegetated easement areas, stream crossing bridge, pond dam, and house on the property, as well as miles of fencing.

3. Leases with private individuals should be upgraded to market values.

Board Action Requested:

Consider the findings of the Master Plan and recommendations for continued use of the Buck Mountain property.

Attachment: Buck Mountain Master Plan

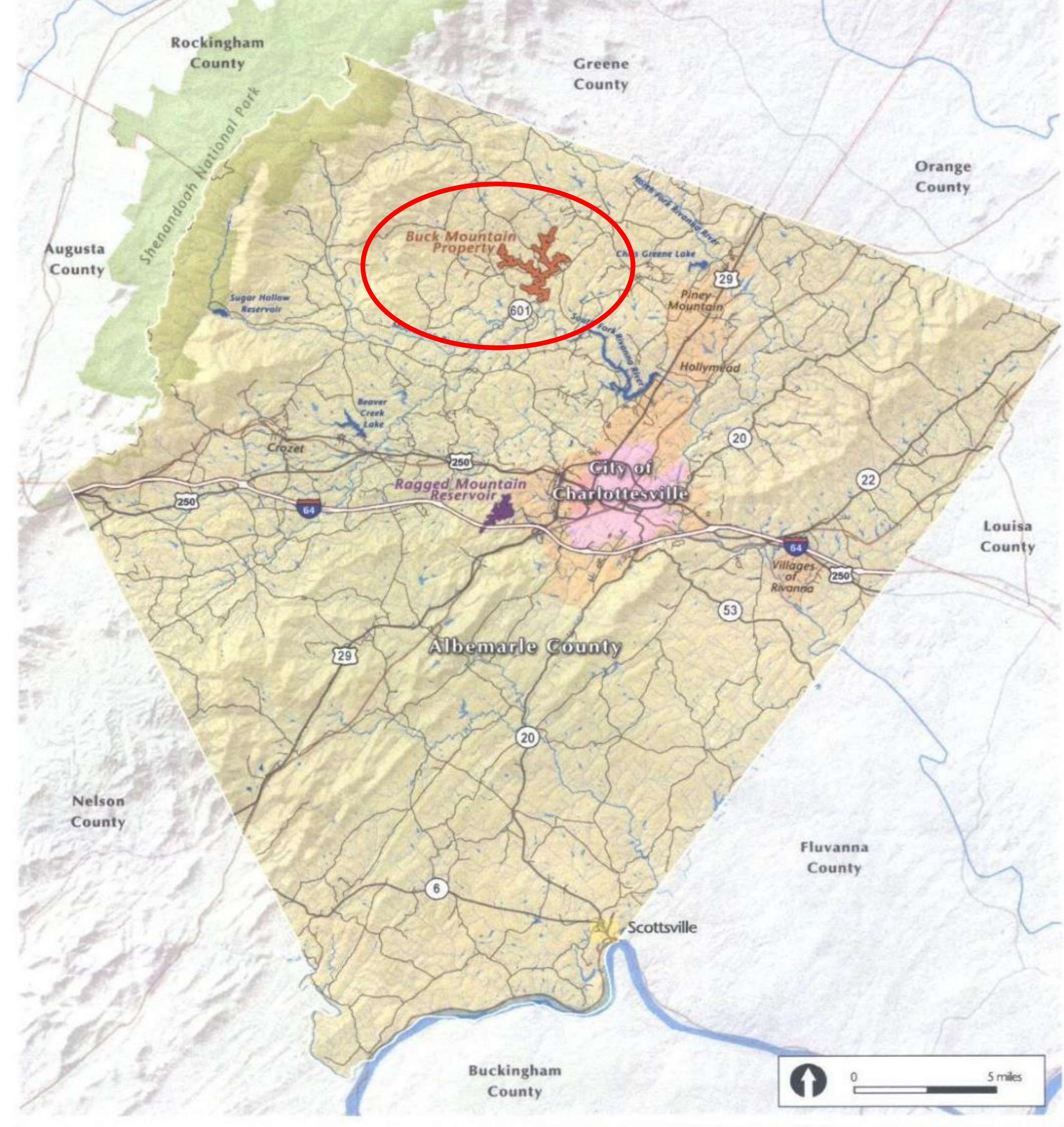
Buck Mountain Land Use Master Plan

Presented by:

Andrea Terry, Water Resources Manager

Bill Mechnick & Tristan Cleveland, LPDA

August 25, 2020

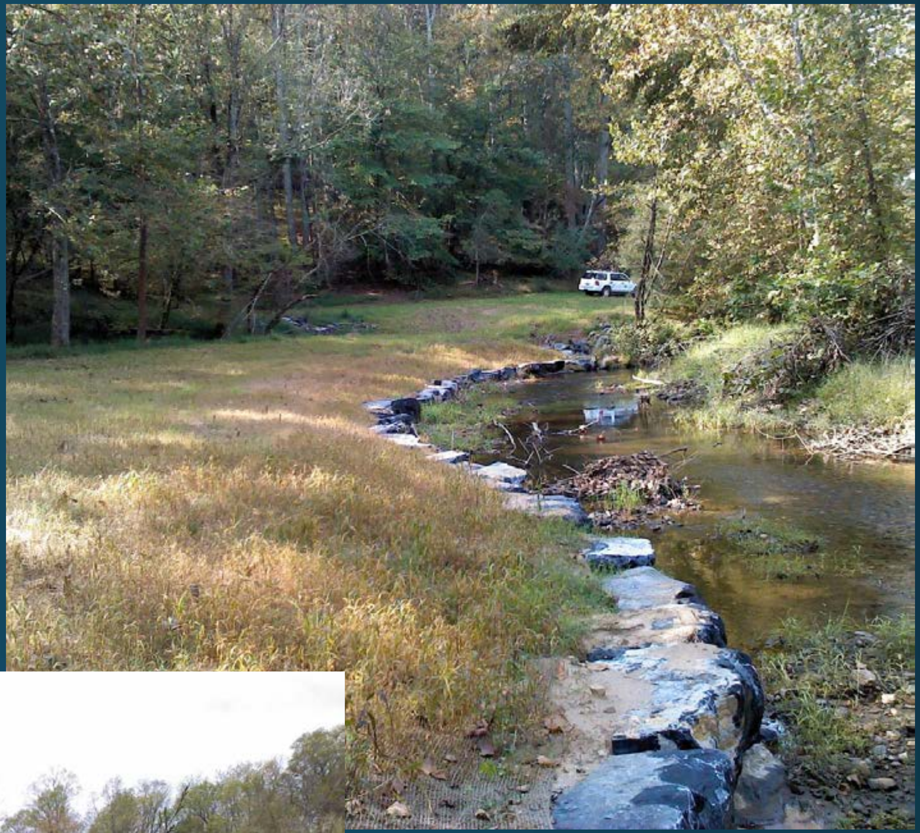


The Property

- RWSA acquired 38 parcels in the Buck Mountain Creek watershed in 1984 – 87
- Parcels range from 1 to 160 acres
- 1,314 total acres: Cost = $6.95 M
- Studies of the reservoir site in the late 1990's identified the presence of the James spinymussel, a state and federally listed endangered species

Current Uses

- Stream mitigation for Ragged Mtn Reservoir impacts in 2014
  - 11,511 linear feet (2.2 miles) impacted
- Stream restoration of 500 linear feet along Buck Mtn Creek
- Buffer enhancement and preservation of riparian habitat along 80,000 linear feet of stream
- Planted 93 acres with over 40,500 trees
- Placed buffer areas in deed restrictions (approx. 600 acres)



Buck Mountain Master Plan

An evaluation of the uses and management of the Buck Mountain property with respect to the Vision, Mission and Values of RWSA.

Strategic Plan Goals

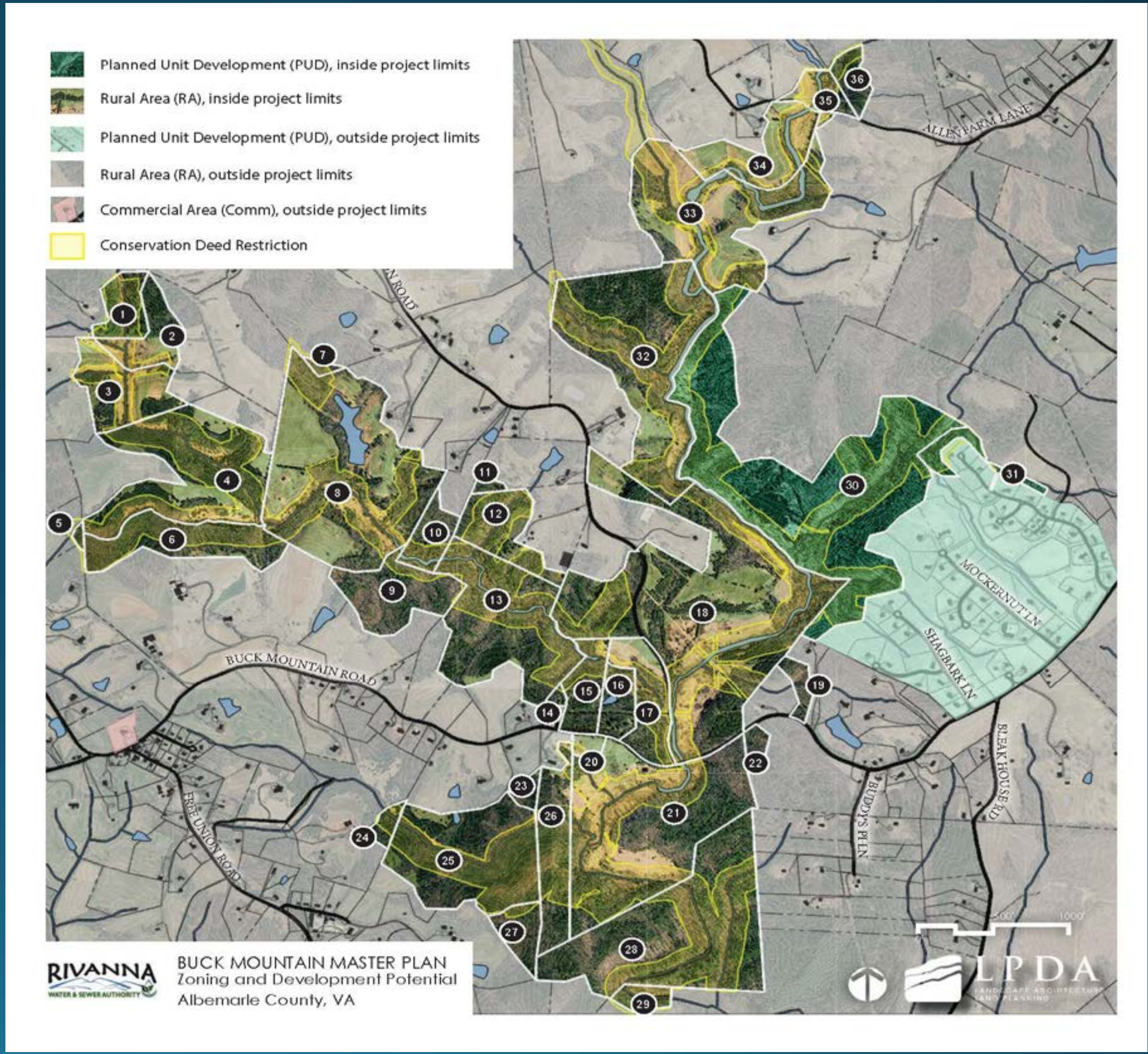
- Environmental Stewardship
  - Water Quality Protection
- Operational Optimization
  - Efficient use of resources
- Infrastructure and Master Planning
  - Water Supply now and in the future

Master Plan Evaluations

- Current land use and zoning
- Infrastructure (roads, utilities)
- Development constraints (leases, steep slopes, deed restrictions)
- Potential as a future reservoir site: normal water level elevation
- Environmental Factors (regulatory history, natural resources description, land management implications)
- Real estate market analysis
- Recreation analysis

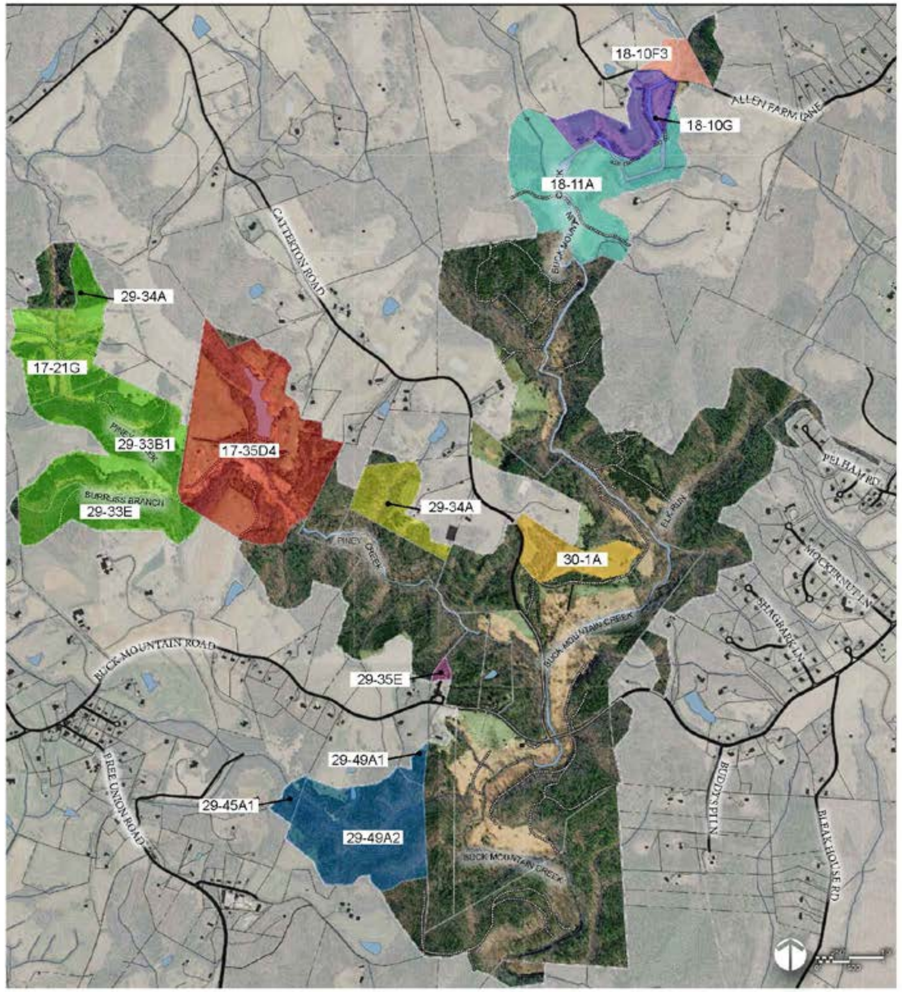
Existing Zoning

- Rural Area (RA) – 1,159 acres
  - Preservation of agricultural and forestal lands and activities
    - Water supply protection
      - Conservation of natural, scenic and historic resources
- Planned Unit Development (PUD) – 155 acres
  - Two parcels adjacent to an existing subdivision



Existing Leases

- 15 parcels leased by 9 leaseholders totaling 484.41 acres: 2-year terms
- 8 parcels are in agriculture (cattle or horses). Remainder are used for quiet enjoyment
- Leases currently generate $1,900 annually



Lessee	Parcel #	Parcel Tax ID	Total Parcel Acreage	Leased Acreage
Robyn North	17-35D4	01700-00-00-35D4	117.95	117.948
Charles Durbin Jr	29-34A	02900-00-00-034A	25.12	25.12
Philip and Melissa Johnson	29-33E	02900-00-00-033E0	27.72	27.724
	17-21G	01700-00-00-021G0	24.51	24.507
	17-22D	01700-00-00-022D0	18.186	18.186
	29-33B1	02900-00-00-33B1	66.02	66.016
David and Virginia Ashcom	30-1A	01700-00-00-35D4	159.96	20

Lessee	Parcel #	Parcel Tax ID	Total Parcel Acreage	Leased Acreage
June E. Mooney, Susan McCarson	18-10G	01800-00-00-1G0	27.36	27.362
Kenneth Wayne McCauley	29-35E	02900-00-00-35E0	1.35	1.348
Lawrence S. Miller and Deborah L. Miller	29-49A2	02900-00-00-049A2	59.87	59.868
	29-45A1	02900-00-00-45A1	2.58	2.581
	29-49A1	02900-00-00-49A1	1.445	1.445
Harry Wellons	18-11A	01800-00-00-011A0	83.75	83.75
Gary Wilson	18010F3	01800-00-00-011A0	8.56	8.56

RIVANNA WATER & SEWER AUTHORITY

BUCK MOUNTAIN MASTER PLAN
LEASED PARCELS
ALBEMARLE COUNTY, VIRGINIA

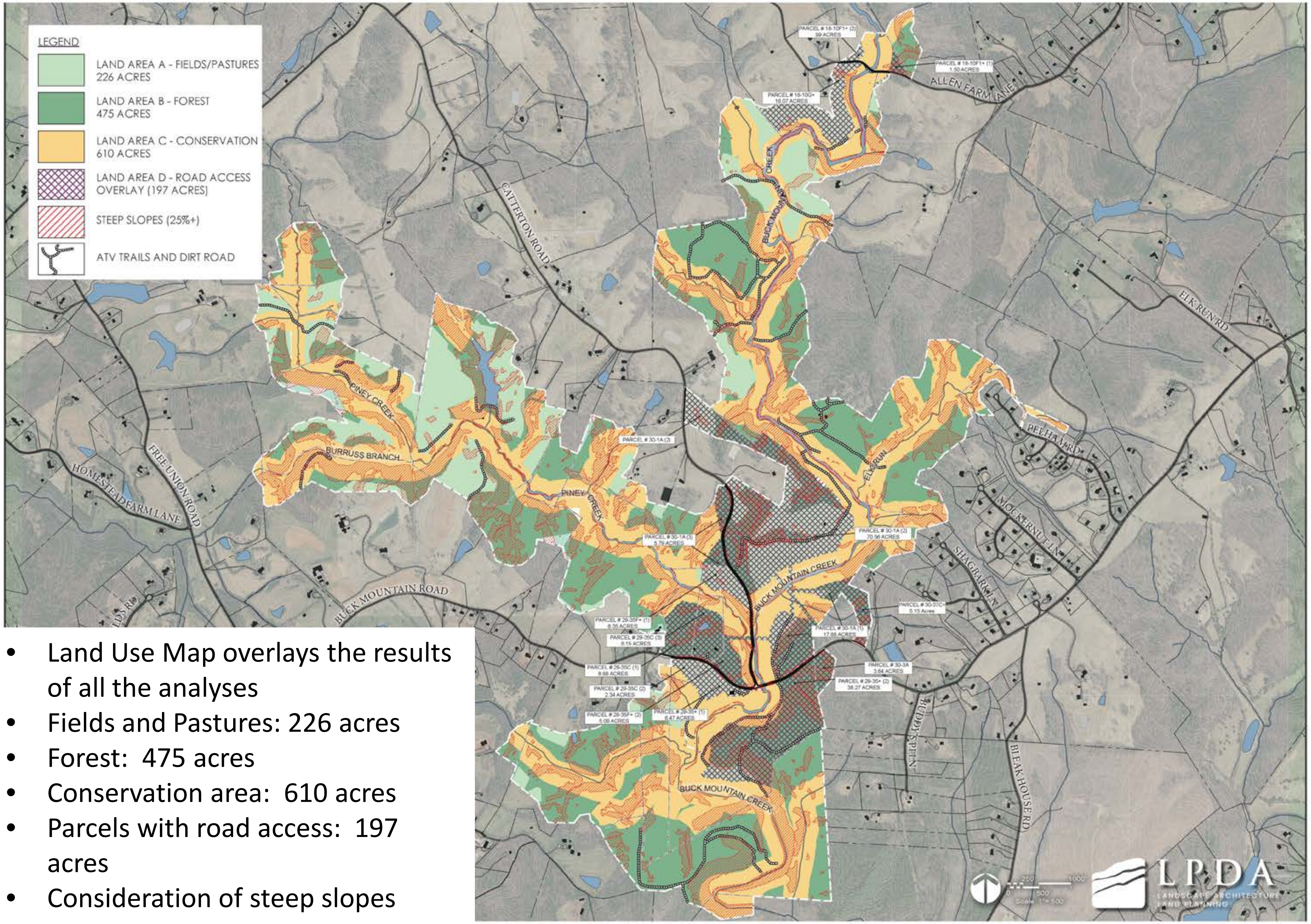
LPDA LANDSCAPE ARCHITECTURE LAND PLANNING

Lease Fee Schedule

Land Use	Current Leasing Schedule	Market
Pasture	$10/acre	$17.50-$20.00/acre
Forested	$3/acre	$13.00-$21.00/acre
Deed Restricted Area	$0/acre	$9.40/acre -$15.00/acre
Total Lease Value	$1,900/year	$6,300-$8,800

Potential Future Reservoir

- Significant regulatory impediments to use as a reservoir in the future: James spinymussel, relocate mitigation sites
- Community Water Supply projects, when completed, meet the demands of public water users for the next 100 years
- Climate change may create unanticipated water demands and regulatory changes



- Land Use Map overlays the results of all the analyses
- Fields and Pastures: 226 acres
- Forest: 475 acres
- Conservation area: 610 acres
- Parcels with road access: 197 acres
- Consideration of steep slopes

Property Management Issues

- Bridge, Stream Crossing – maintenance
- Pond Dam - permitting and maintenance
- House - previously rented but is no longer in a condition to be rented
- 600 acres of deed restrictions: invasive vegetation, wildlife management, trespassing and ATVs
- 10 miles of fences and gates
- Access Road Agreements

Parcels With Highest Market Potential

- Elliot House parcel
- Parcels on either side of Elliot House (are not currently leased)
- Parcel to South of Buck Mountain Rd.
- Total acreage: 46.1
- Assessed value = $655,600
- Average value = $14,200/acre

Master Plan Scenarios

Scenario 1: Divestment

Level 1: Sell entire property

Level 2: Sell portions of the property that have the highest sale value and/or are outside the future reservoir boundaries

Scenario 2: Land Management

Retain ownership and manage the property

Scenario 3: Active Amenitization

Level 1: Retain ownership and encourage passive recreational use of the site through partnerships

Level 2: Retain ownership and solicit active development

Recommendations

- Retain ownership
- Manage the property with a focus on additional sustainability uses that could offset RWSA's existing carbon footprint: silviculture, reforestation and solar sites
- Update leases to market value
- Develop comprehensive Property Management Plan and Budget

Questions?

<u>Board Action Requested:</u>

Consider the findings of the Master Plan and recommendations for continued use of the Buck Mountain property.

Buck Mountain Land Use

MASTER PLAN

August 2020

RIVANNA
WATER & SEWER AUTHORITY

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Appendix A – Land Use Analysis Maps

Appendix B – Buck Mountain Environmental Report

Appendix C – Recreation Market and Partnership Analysis

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August 2020

Executive Summary

The Rivanna Water Sewer Authority owns a 1,314 acre tract of land in northwestern Albemarle County, referred to in this report as the Buck Mountain property. The RWSA acquired the land in the 1970s and 1980s when it was considering developing a supplemental drinking water reservoir. That plan was abandoned due to regulatory restrictions and the property now serves as an environmental mitigation site associated with the RWSA's expansion of the Ragged Mountain Reservoir, as well as serving as watershed protection for the South Rivanna Reservoir. Sections of the land are leased back to the former property owners, who use it for a mix of pasture, hay fields, and passive forest recreation.

The RWSA is seeking to optimize all parts of its operation, and that includes evaluating the use and management of the Buck Mountain property so that it better serves the goals and priorities of the Authority and its ratepayers. This report analyzes the existing conditions of the site and feasibility of potential uses of the site, gathering relevant information into one document that RWSA can reference when deciding the path forward for the Buck Mountain property.

Site Use Opportunities

The size and variety of the Buck Mountain property allows for the possibility of many site uses, though each use would need to be sited appropriately.

The report analyzed the site constraints of the property, including site conditions (slope, land cover), infrastructure (roads, trails), regulatory restrictions (stream buffer, water protection ordinance), and environmental constraints (conservation easement, riparian buffer improvements). Mapping reveals that there are greater restrictions to active use and development along the bottom lands and stream corridors. More active or impactful uses can be located on the ridges. The lack of road access to most of the site means that the ridge parcels along Buck Mountain Road and Catterton Road are the most easily developed parcels, and could offer passage through to other developable parcels.

BUCK MOUNTAIN SITE CONDITIONS

SIZE:

1,314 acres

36 parcels

ZONING:

1,159 acres **(88%)**
RURAL AREA

115 acres **(12%)**
PLANNED UNIT DEVELOPMENT

610 ac. **(46%)**
OF THE SITE HAS CONSERVATION DEED RESTRICTIONS

1.1 miles of ROAD FRONTAGE

NO WATER/SEWER CONNECTIONS

$10,000,000*
LAND SALE VALUE
**The fair market value of each parcel may be higher or lower, dependent on access and other site features*

The report ranks the feasibility of a variety of uses based on RWSA objectives, regulatory compatibility, site compatibility, and operational compatibility. The highest scoring uses are shown to the right. The location of uses on the property is dependent upon land cover and site features. The fewest uses are possible within the deed restricted conservation areas. Uses that require road access, primarily development uses like campgrounds, wineries, or solar farms, are the most restricted by site conditions. Uses that require less active development, like divestment, land management, environmental research, and passive recreation, have the fewest site requirement restrictions.

SITE FEASIBILITY: HIGHEST SCORING USES

- hunting
- hiking
- environmental research
- fishing

Can Buck Mountain be a…

Future Reservoir?

Answer: Not likely

Existing environmental regulations and/or conditions would have to change for a reservoir to be possible.

Buck Mountain Reservoir plan was originally rejected because of finding an endangered mussel in the stream

Ragged Mountain Reservoir mitigation located on site would need to be shifted and rebuilt.

Extensive environmental review required for a reservoir.

RWSA must maintain ownership of all parcels if reservoir is ever to be built.

Can Buck Mountain be a…

Mitigation Bank?

Answer: Low return on investment

Majority of the suitable area for a stream/wetland bank was used during the Ragged Mountain Reservoir mitigation. Residual land would not be efficient to develop as a stream/wetland bank.

A nutrient bank in the upland areas of the site has low nutrient credit potential based on the current land cover and regional nutrient credit prices. Cost of investment is higher than credit revenue.

Dedicating the land as a mitigation bank limits additional uses into perpetuity.

RECREATION MARKET ANALYSIS SUMMARY

Albemarle County has higher than average market potential ratings for all outdoor activities, especially for backpacking, hiking, and mountain biking. This indicates that these uses would likely be successful if implemented at Buck Mountain.

The local restaurant market is oversaturated, indicating that a restaurant located on the Buck Mountain property would likely not be successful.

Forming partnerships with outside organizations would be the most efficient method for RWSA to develop uses on the site. The first step for finding a partner would be to issue a Request for Interest (RFI).

Master Plan Scenarios

There are three potential scenarios for the future of the Buck Mountain property. The scenarios require varying levels of investment and direct oversight by RWSA. They are presented in order of least to most continued involvement by RWSA. Due to the legal binding and responsibility RWSA has for the deeded conservation area within the Buck Mountain property, RWSA will be connected to the site in perpetuity in what ever way the land is used.

Scenario 1: Divestment

Level 1: RWSA sells entire Buck Mountain property. Any potential for a future reservoir on the property is removed.

Level 2: RWSA sells portions of the property that have the highest sale value and/or are outside of the future reservoir limits. RWSA is responsible for managing the remainder of the property.

Scenario 2: Land Management

RWSA maintains ownership and complete management of the property, potentially allowing leasing and land use agreements. There is minor revenue generation potential from leasing and access agreements. The management scenario that is closest to current conditions.

Scenario 3: Active Amenitization

Level 1: RWSA maintains ownership of the property and encourages passive recreational use of the site. There is the potential to partner with outside organizations for land management. There is potential for revenue generation.

Level 2: RWSA maintains ownership of the property and solicits active development of the property, changing land use and land cover from current condition. High potential for revenue generation.

Given the potential for change in water supply demand, environmental priorities, and the watershed protection mission, it is logical for RWSA to continue to own and manage the Buck Mountain property. Keeping the property under RWSA ownership allows RWSA to control the land use and protect the water quality contributing to the South Rivanna Reservoir. It would also be logical to attempt to capture some benefit from the property with uses and activities that align with, complement, and/or enhance the mission objects through direct management or partnerships with other organizations. Unless supplemental funding would be available to the RWSA for additional resources and staff time, it is important that the responsibility for cost and management efforts be borne by others, or that proposed uses be sustainable and essentially self-maintaining within the baseline of general land management.

Using the information collected in this report, RWSA can now select and proceed with the scenario best fits its goals, objectives, and values.

Background

The Rivanna Water Sewer Authority owns a 1,314 acre tract of land in northwestern Albemarle County, referred to in this report as the Buck Mountain property. The RWSA acquired the land in the 1970s and 1980s when it was considering developing a supplemental drinking water reservoir. That plan was abandoned due to regulatory restrictions and the property now serves as an environmental mitigation site associated with the RWSA's expansion of the Ragged Mountain Reservoir, as well as serving as watershed protection for the South Rivanna Reservoir. Sections of the land are leased back to the former property owners, who use it for a mix of pasture, hay fields, and passive forest recreation.

The RWSA is seeking to optimize all parts of its operation, and that includes evaluating the use and management of the Buck Mountain property so that it better serves the goals and priorities of the Authority and its ratepayers. This report analyzes the existing conditions of the site and feasibility of potential uses of the site, gathering relevant information into one document that RWSA can reference when deciding the path forward for the Buck Mountain property.

Priorities for the Buck Mountain Property

RWSA's priorities for the site are directly related to the organization's goals of providing a high-quality reliable water source for public use.

Rivanna Water Sewer Authority Priorities

#1 Water Supply
continuing to provide reliable water service

#2 Water Protection
continuing to provide the community with high quality water through environmental protection and stewardship

RWSA Goals Related to Buck Mountain

efficient use of RWSA resources

reduce direct management

manage liability potential

Site Analysis

To better understand the current site conditions and regulatory conditions that affect the future use of the Buck Mountain property, the master planning process begins with an analysis of existing site conditions. LPDA examined the zoning, land use, and operation of the site and VHB conducted an environmental assessment that is included as a supplement to this report.

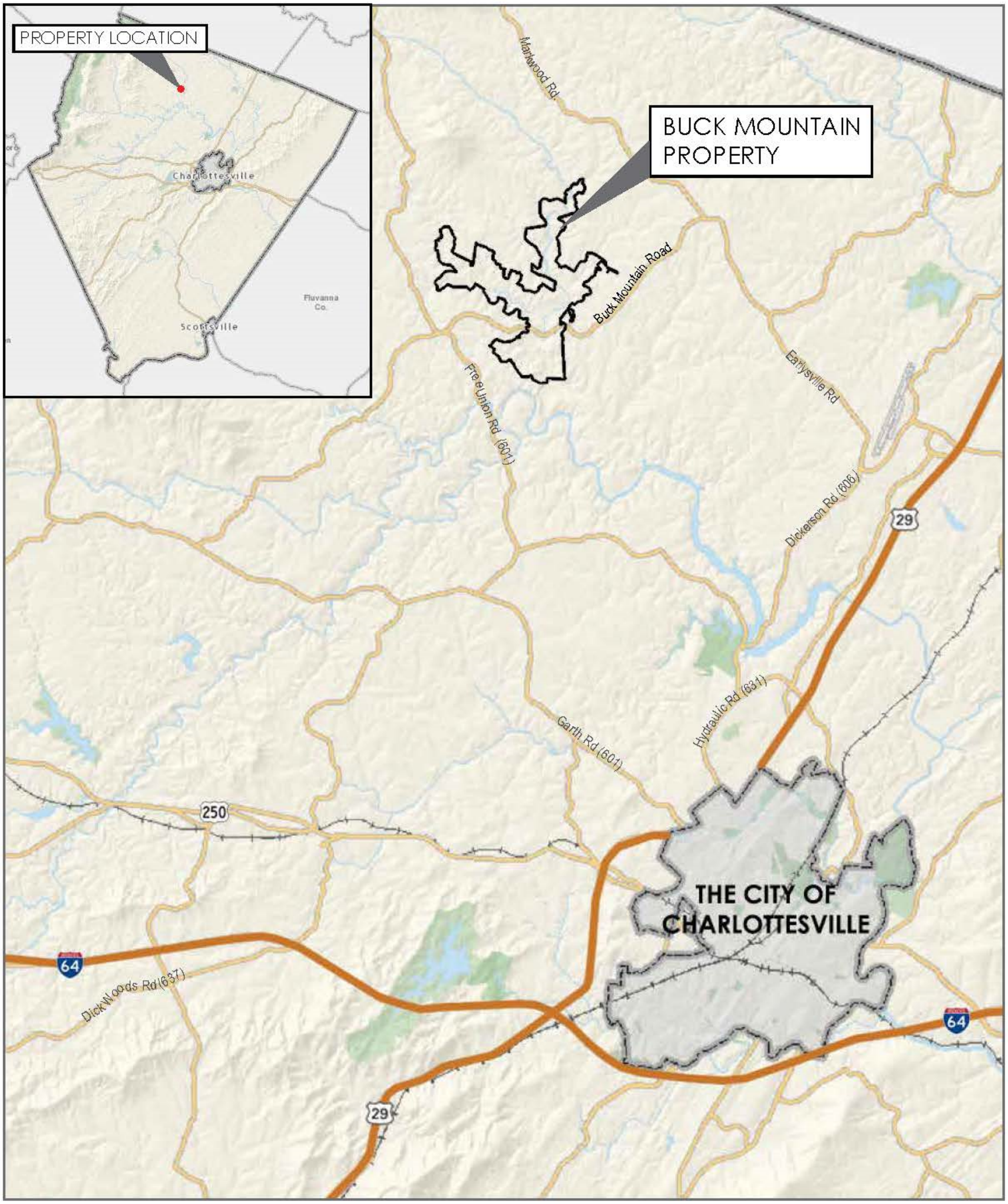


Figure 1: Buck Mountain Property locator map

Buck Mountain Land Use and Zoning

Zoning

The Buck Mountain property and vicinity is designated as a rural area in the 2015 Albemarle County Comprehensive Plan. The Buck Mountain property has two zoning types within and adjacent to it: Rural Area, 1,159 acres of the 1,314 RWSA property, and Planned Unit Development, 155 acres. Free Union, a small hamlet with an area of commercial zoning, is 1.5 miles to the west of the site.

Rural Area Zoning

A majority of the property and surrounding area is zoned Rural Area (RA). This zoning is intended to serve the following purposes:

- Preservation of agricultural and forestal lands and activities;
- Water supply protection;
- Limited service delivery to the rural areas; and
- Conservation of natural, scenic, and historic resources.
  (A.C.V.A. §20-10.1)

By Right Uses

Certain Uses are permitted in zoning districts by right, without additional permits or requirements. The following uses are permitted by right in an RA district. These uses may be put in place by the property owner or by the lessee, dependent upon the lease agreement. RWSA needs to be aware that if the property was sold, then the new landowners could also use the land in the following ways, which may not be in accord with RWSA's overall purpose and goals. RWSA did condemn two properties when initially acquiring the land for a reservoir, but based on investigations by RWSA's attorney, that condemnation process did not place restrictions on the future use, development, or sale of those parcels under RWSA ownership.

- Residential, single-family or duplex
- Agriculture, forestry, fishery
- Game preserves and wildlife sanctuaries
- Water, sewer, energy, and communications distribution facilities
- Off-site veterinary
- Farm wineries, breweries, and distilleries
- Commercial stable
- Wind turbines
- Farm stands and farmers' markets
- Religious assembly of 200 people or less
- Borrow area/pit

Uses by Special Use Permit

Certain land uses are permitted within a zoning category if applied for and granted through a special use permit. The process involves a series of hearings and review by the Albemarle County Department of Community Development and Board of Supervisors. The uses that may be granted by a Special Use permit in the RA zoning are:

- Community center, clubs, lodges

- Fire and rescue squad stations
- Athletic facilities (swim, golf, tennis)
- Private schools
- Child day care centers
- Mobile home subdivision
- Horse show grounds
- Sawmills, planning mills, and woodyards
- Commercial kennel
- Veterinary services or animal hospital
- Day camp or boarding camp
- Sanitary landfill
- Country store with potential for gasoline sales
- Commercial fruit or agricultural produce packing plant
- Flood control dams or impoundments
- Restaurants within a historic structure
- Cemetery or crematorium
- Boat livery
- Public garage
- Gift, craft, or antique shop
- Religious assembly greater than 200 people
- Hydroelectric power generation
- Convent or monastery
- Special events
- Agricultural museum
- Animal shelter
- Solar energy systems

Planned Unit Development Zoning

Two parcels totaling 154 acres within the Buck Mountain property are zoned Planned Unit Development (PUD). These Buck Mountain parcels are contiguous with an adjacent subdivision of approximately 199 acres that is also zoned PUD. PUDs are intended to serve as residential communities with supporting commercial and industrial amenities if so zoned. The PUD within and adjacent to the Buck Mountain site is identified as residential, so there would be no commercial or industrial development permitted, though it is possible to apply for rezoning. It is unlikely that the parcels owned by RWSA that are zoned PUD would ever be developed to their residential capacity, as a majority of those parcels are within a deed restricted conservation easement. This deed restriction places severe constraints on the use and development within its boundaries.

By Right Uses

The by-right uses permitted in a PUD are all related to residential development and supporting amenities, including:

- Residential, single family, duplex, or multi-family dwellings
- Parks, playgrounds, and community centers
- Water, sewer, energy, and communication distribution facilities
- Stormwater management facilities included in the approved final site plan

Special Use Permit

The following uses are permitted by special use permit in the PUD, subject to all approval processes:

- Child day care center
- Fire, ambulance, and rescue squad stations
- Assisted living facilities
- Religious assembly use
- Wireless service facilities
- Farmers' markets

Residential Development Potential

Permitted Subdivisions

Zoning permits by-right residential development of properties. Parcels in the Rural Area District (RA) have development rights to be subdivided into five parcels, sized 2-20 acres. The subdivision is to be a maximum of 31 acres, to preserve the rural character of the district. Parcels 42 acres or larger may be subdivided into parcels of 21 acres or greater without using a development right. The five development rights per parcel were granted in 1980, so if a parcel has been subdivided since then, additional tax parcel research is required to determine the exact remaining development rights in a parcel.

Planned Unit Developments, PUD zoning, are permitted a greater density of units, 35 dwelling units per acre (du/acre), with 25% of the original land preserved as open space. Each PUD development must be approved by the County, so the final density may be much lower. Plan approval is also dependent on site factors like access, traffic studies, utility connections, and civic capacity (schools, fire). The PUD adjacent to the Buck Mountain property was developed at 0.3 - 0.75 units per acre (lots sized 1.5-3.0 acres), so it is likely that if the PUD zoned parcels within the Buck Mountain property were to be developed, it would be at a similar density. To show the potential range of development capacity, the parcel was analyzed at a 75% development area at both 0.5 du/acre and 35 du/acre.

Potential Residential Unit Development Analysis

The total potential residential development for the Buck Mountain property was analyzed. If the land was sold to private landholders or a development company, this would be the maximum potential units to be developed on the property. This is an important consideration for the future of the watershed and water quality. This is the total maximum development, assuming that each parcel holds the maximum allowable five subdivision rights. In practicality, the total development would be constrained by conservation restriction requirements and prior subdivision counts. As long as the residential construction site was outside of the conservation area, the rest of the lot could extend into the restricted portion. Therefore, as long as there was sufficient land for a residential construction site outside of the conservation easement, the full development potential was assumed for the parcel. A full development potential study would be required, including parcel history research, for the accurate development quantity. Special use permits would allow development at greater densities, but given the oversight and review required for that process, this analysis considered by-right maximum development potential only. The quantity analysis in this report is intended to give an overview of potential to give RWSA an understanding of the situation to base future decisions on.

The **Zoning and Development Potential Map** shows the zoning of the parcels within and surrounding the Buck Mountain property and the development potential of the parcels within the Buck Mountain property. Total maximum potential development within the RA zoned parcels is 151 residential units. Maximum potential development in the PUD zoned parcels is 56 – 3,976 residential units. The grand potential maximum total is 207 – 4,127 residential units.

Land Sale Potential

The total assessed tax value of all the parcels is $9,812,300. The fair market value of each parcel may be higher or lower, dependent on access and other site features. The 2019 tax assessed value for each parcel is shown on the **Zoning and Development Potential Map.** RWSA originally purchased the parcels for a combined sum of over $6,000,000, and has since spent over $4 million in improvements and management. RWSA would not recoup the money spent on the property by selling. Whether RWSA or another entity owns the property, RWSA will still be responsible in perpetuity for the maintenance and health of the area under conservation agreement.

Land Uses

On-site Land Uses

The primary land uses within the site are forest, pasture, and hay fields. There is also a residential historic structure, the Elliot House, which has been unoccupied since 2017, and a barn that a lessee uses to store farm equipment. These uses are all permitted by-right by the zoning ordinance.

An important factor affecting land use within the property boundaries is stream mitigation tied to the Ragged Mountain Reservoir expansion. This mitigation includes 570 linear feet of stream channel enhancements, 75,000 linear feet of riparian habitat preservation/enhancement along stream channels, and 93 acres of forested riparian buffer enhancement. Approximately 610 acres of the site was placed under conservation restrictions, which limits but does not prescribe land use within its boundaries. These mitigation features must remain in place and functional as long as they are tied to the Ragged Mountain mitigation, independent of who owns or manages the parcels they are located on.

LPDA conducted a site visit in February 2020 and noted amenities, opportunities, and constraints on the site. Refer to the **Existing Photo Inventory Map** for the location and condition of features and amenities.

Surrounding Land Uses

The properties surrounding and adjacent to the RWSA Buck Mountain property are residential, agricultural, and forestal. The residential properties are single family units, except for a 65-lot Planned Unit Development, Hickory Ridge, which adjoins the Elk Run arm of the Buck Mountain property. The agricultural land is pasture, including cattle and horses and hay fields. Ramiiisol Vinyards, a vineyard and winery adjoins the Buck Mountain property. The vineyard does not currently contain a tasting room nor is it open to the public. Spring Breeze Farm, a riding stable, also adjoins the Buck Mountain property. The surrounding properties also include forested land, though at a lesser percentage that what exists on the Buck Mountain property. An equine veterinary practices is in the vicinity, though does not adjoin the property.

The small hamlet of Free Union lies 1.5 miles to the west of the property and contains a small commercial core of businesses and shops as well as residences.

Leases

Figure 2: Buck Mountain Leasing Schedule

Buck Mountain Leasing Schedule		Benchmark
Pasture	$10.00/acre	$17.50-$20.00/acre
Forested	$3.00/acre	$13.00-$21.00/acre
Deed Restricted Area	$0/acre	$9.40-$15.00/acre

RWSA leases all or portions of 14 parcels to nine (9) different tenants, often the original owners of the parcel before RWSA acquired the land. Refer to the **Leased Parcels Map** for the locations of leased parcels. The land is leased at the following schedule, adopted circa 2011.

LPDA evaluated benchmark leasing rates for the area and found that RWSA is leasing at well below the regional average. USDA National Agricultural Statistics Service identified the 2019 average pasture lease rate in Albemarle County as $17.50/acre and central Virginia's regional average as $20.00/acre. Forested land leased for hunting in the region ranges from $13.00/acre to $21.00/acre. Passive recreation is permitted in the deed restricted area. LPDA found that the regional average daily lease rate for passive recreation site is 72% of the daily lease rate of hunting properties. The benchmark used is 72% of the regional rate for leased hunting land. Hunting and passive recreation land leasing prices are based on an evaluation of publicly advertised leasable land (April 2020).

Figure 3: Buck Mountain Leasing Revenue Potential

Buck Mountain Annual Leasing Revenue	
Current	$1,886.48
Potential based on Benchmark	$6,200 - $8,800

RWSA could potentially generate additional revenue by increasing the leasing schedule to benchmark rates, though the additional revenue would be a small percentage of RWSA's overall operational budget. There is also the chance that some lessees would not renew their lease if the rate significantly increased, which would reduce the estimated revenue potential. RWSA gains management oversight and positive neighbor relations through the leasing program, and should consider these benefits as well as the revenue when evaluating a lease schedule revision.

The lessees are permitted to use the land outside of the conservation easement for pasture, hayfields, hunting, and passive recreation, but are not permitted to make any improvements, construction, timbering, or changes to the land cover. Pasture and hayfields are not permitted within the conservation easement. The lease is intended to provide quiet enjoyment of the leased land.

The tenant is responsible for maintaining the land, including maintaining trail access, gates, and fences. The tenants' active use and observation of the property provides security to the operation of the land. Tenants inform RWSA of unauthorized access and damage to the property, which is a beneficial service to RWSA. There is the potential that this relationship of maintenance and observation could be increased to the benefit of the management of the land.

Figure 4: Buck Mountain 2019 Lease Agreements

2019 Lease Agreements

Lessee	Parcel #	Parcel Tax ID	Total Parcel Acreage	Leased Acreage	Deed Restriction Ac. (no fee)	Annual Rent
David and Virginia Ashcom	30-1A	01700-00-00-35D4	159.96	19.68	37.035	$ 150.00
Charles Durbin Jr.	29-34A	02900-00-00-034A	25.12	25.12	14.451	$ 66.14
Phillip and Melissa Johnson	29-33E	02900-00-00-033E0	27.724	27.724	73.523	$ 382.87
	17-21G	01700-00-00-021G0	24.507	24.507		
	17-22D	01700-00-00-022D0	18.186	18.186		
	29-33B1	02900-00-00-33B1	66.016	66.016		
June E. Mooney, Susan McCarson	18-10G	01800-00-00-1G0	27.362	27.362	10.81	$ 162.75
Kenneth Wayne McCauley	29-35E	02900-00-00-35E0	1.348	1.348	0	$ 4.00
Lawrence S. Miller and Deborah L. Miller	29-49A2	02900-00-00-049A2	59.868	59.868	30.38	$ 114.54
	29-45A1	02900-00-00-45A1	2.581	2.581		
	29-49A1	02900-00-00-49A1	1.445	1.445		
Robyn North	17-35D4	01700-00-00-35D4	117.95	117.95	37.035	$ 651.36
Harry Wellons	18-11A	01800-00-00-011A0	83.75	83.75	42.41	$ 336.55
Gary Wilson	18-10F3	01800-00-00-010F3	8.56	8.56	5.437	$ 18.27

Figure 5: Buck Mountain Lease Rates, Current and Potential

Leasee	Leased Acreage			
	Total	Preservation	Forest	Pasture
Ashcom	20	0	6.7	13.3
Durbin	25.12	14.451	5.793	4.876
Johnson	136.4	73.523	35.176	27.734
Mooney	27.36	10.81	0.396	16.156
McCauley	1.348	0	1.348	0
Miller	66.89	30.38	34.51	2
North	117.9	37.035	22.108	58.803
Wellons	83.74	42.41	10.97	30.364
Wilson	8.556	5.437	1.846	1.273

Leasee	Cost of leasing by usage type ($ rate per acre)								
	Preservation			Forest			Pasture		
	Current ($0)	Min ($9.40)	Max ($15)	Current ($3)	Min ($13)	Max ($21)	Current ($10)	Min ($17.5)	Max ($20)
Ashcom	$ -	$ -	$ -	$ 20.10	$ 87.10	$ 140.70	$ 133.00	$ 232.75	$ 266.00
Durbin	$ -	$ 135.84	$ 216.77	$ 17.38	$ 75.31	$ 121.65	$ 48.76	$ 85.33	$ 97.52
Johnson	$ -	$ 691.12	$ 1,102.85	$ 105.53	$ 457.29	$ 738.70	$ 277.34	$ 485.35	$ 554.68
Mooney	$ -	$ 101.61	$ 162.15	$ 1.19	$ 5.15	$ 8.32	$ 161.56	$ 282.73	$ 323.12
McCauley	$ -	$ -	$ -	$ 4.04	$ 17.52	$ 28.31	$ -	$ -	$ -
Miller	$ -	$ 285.57	$ 455.70	$ 103.53	$ 448.63	$ 724.71	$ 20.00	$ 35.00	$ 40.00
North	$ -	$ 348.13	$ 555.53	$ 66.32	$ 287.40	$ 464.27	$ 588.03	$ 1,029.05	$ 1,176.06
Wellons	$ -	$ 398.65	$ 636.15	$ 32.91	$ 142.61	$ 230.37	$ 303.64	$ 531.37	$ 607.28
Wilson	$ -	$ 51.11	$ 81.56	$ 5.54	$ 24.00	$ 38.77	$ 12.73	$ 22.28	$ 25.46

Leasee	Subtotals		
	Current	Min	Max
Ashcom	$ 153.10	$ 319.85	$ 406.70
Durbin	$ 66.14	$ 296.48	$ 435.94
Johnson	$ 382.87	$ 1,633.75	$ 2,396.22
Mooney	$ 162.75	$ 389.49	$ 493.59
McCauley	$ 4.04	$ 17.52	$ 28.31
Miller	$ 123.53	$ 769.20	$ 1,220.41
North	$ 654.35	$ 1,664.59	$ 2,195.85
Wellons	$ 336.55	$ 1,072.63	$ 1,473.80
Wilson	$ 18.27	$ 97.38	$ 145.78
GRAND TOTAL	$ 1,901.60	$ 6,260.90	$ 8,796.60

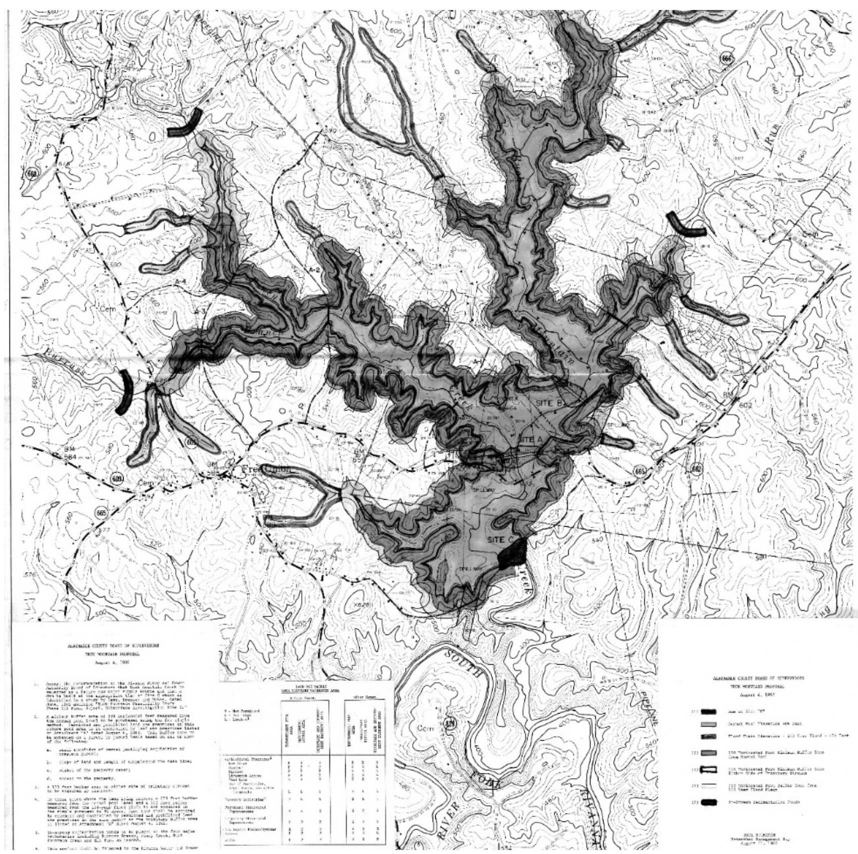
Note: Current rate totals are calculated based on the lease rate schedule adopted in 2011. The actual rent payment for each lease may differ from the calculations and totals shown in this chart.

Potential Future Reservoir

RWSA originally acquired the Buck Mountain property with the intent of constructing a drinking water supply reservoir. During plan development in the early 1980s an endangered species was discovered to be living in Buck Mountain Creek, so the plan for a reservoir was dismissed. There are significant legal and environmental impediments to ever constructing a reservoir on the property, but RWSA may wish to consider the potential for change of future conditions that would warrant the need for the construction of a drinking water reservoir on site. [Refer to the **Environmental Report, Appendix B**, for complete legal and environmental implications].

The normal reservoir pool elevation would be 464' and flood elevation would be 474'. A 300' buffer would extend from the normal pool elevation, severely limiting the adjacent uses to only certain types of forestry and permitting no new or existing structures. The **Reservoir Potential Map** marks the extent of each of these pool areas. 670 acres of the 1,314 acre site would be water area. Almost all of the remainder of the site is within the 300' buffer area, which severely limits the developability or sale value of the land that would remain dry.

Considering the reservoir as a potential future land use impacts the potential of development or sale of the Buck Mountain property. All structures would need to be built above the pool elevation and no parcel or portion of a parcel within the pool could be sold. If RWSA wishes to hold open the future possibility of a reservoir on site, all use and development of the property in the meantime will need to be considered with this in mind.



1982 Buck Mountain Reservoir feasibility study map

Buck Mountain Infrastructure

The Buck Mountain parcel was acquired for the purpose of developing a dam and drinking water reservoir. The primary selection criteria at the time was elevation, not utilities or road access. Now that the RWSA is considering alternate uses, these other amenities rise in importance.

Roads

The site has limited road access. Much of the site consists of the back edges of private property with no road access. The property is bisected by three roads, which provide a measure of access: 0.6 miles along Buck Mountain Road (Rt. 665), 0.3 miles along Catterton Rd. (Rt. 667), and 0.2 miles along Allen Farm Lane (Rt. 666).The parcels were selected for their elevation rather than for other infrastructure or features. Considering alternate uses for the property increases the importance of other infrastructure like utilities and road access.

There is a limited network of ATV trails and old farm roads through the site, but these are discontinuous and do not provide RWSA with easy access to the entire site. RWSA currently depends on permission from a private landowner to use their driveway and a limited access agreement with a winery to pass through their property to access the western arm of the property.

Development of new roads through the conservation easement is not permitted without COE and DEQ approval. Trails are allowed to pass through the easement.

Development or active uses of the property are dependent upon convenient vehicular access, which is limited to the central core at the Buck Mountain – Catterton Road intersection and the Allen Farm Lane crossing.

Utilities

The property is not served by public water or sewer. Any development on the site would require a well and a septic field to fully service. Water access for fire emergency response is designated within the property, at the Buck Mountain Road and Allen Farm Lane crossings of Buck Mountain Creek.

Site Constraints Analysis

The Buck Mountain property is a large site with a diverse and varied set of existing conditions. The final master plan must consider the use potential of the parcels within the property, as well as the future of the overall conglomeration. Part of that use evaluation is done by overlaying a range of site conditions to see where overlaps are, which start to inform appropriate use categories.

LPDA developed a site constraints analysis map that examines existing conditions identified during the site visit, zoning and infrastructure inventory, and the environmental conditions assessment conducted by VHB. The **Constraints Analysis Map** overlays site conditions (slope, land cover), infrastructure (roads, trails), regulatory restrictions (stream buffer, water protection ordinance), and environmental constraints (conservation easement, riparian buffer improvements, future potential reservoir pool elevation).

The Constraints Analysis map reveals that there are greater restrictions to active use and development along the bottom lands and stream corridors. More active or impactful uses can be located on the ridges. The lack of road access to most of the site means that the ridge parcels along Buck Mountain Road and Catterton Road are the most easily developed parcels, and could offer passage through to other developable parcels. The existing ATV trail network on site could be expanded, giving RWSA better access and increasing the use potential of the remainder of the site.

Land Use Compatibility Evaluation

Purpose

The compatibility evaluation matrix is intended to evaluate the feasibility and compatibility of many possible land uses considered for the Buck Mountain property. It does this in the context of RWSA objectives, physical attributes, operations, and regulatory requirements. The matrix evaluates the potential of use on the whole property, rather than a specific parcel. A follow-up mapping evaluation will show where which uses can be implemented on the property. The final scoring of each use shows which uses are more or less generally compatible and feasible to enact on site. It is possible that even low-scoring uses are still feasible, it may just be more difficult to implement it.

Uses

The potential uses that are evaluated are based on topics that have arisen during discussions with RWSA and as part of the Site Inventory and Analysis process. Related uses are clustered into categories and organized on a spectrum of least to most direct and prolonged involvement by RWSA.

One potential use that was investigated during the project was mitigation banking, both stream corridor mitigation and nutrient mitigation through upland forest establishment. These options were fully investigated by the VHB in the *Buck Mountain Environmental Report* **(Appendix B)**. Investigation found that these uses would not be feasible on site. All impaired stream banks in the project area were improved as part of the Ragged Mountain Reservoir project, leaving no remainder for future banking credits. Upland nutrient banking would not provide many nutrient credits due to the site's current land cover – preserving forests or converting fields to forests does not result in many nutrient credits. Upland nutrient banking would be a poor return on investment. The balance of limited nutrient credit value to improvements, perpetual maintenance and responsibility, and elimination of future uses from the banked area is uneven and not a feasible option for RWSA. For this reason, though nutrient credit banking aligns with RWSA's objectives, it is not a feasible option for the Buck Mountain property and is not included in the land use compatibility evaluation.

The trails at Ragged Mountain Reservoir are maintained and operated by Albemarle County Parks and Recreation

Feasibility

There are many factors that determine the feasibility of establishing a use on the Buck Mountain property. This matrix evaluates factors in four categories: RWSA objectives, regulatory compatibility, site compatibility, and operations compatibility.

RWSA Objectives Compatibility

The three objectives evaluated are derived from the RWSA's Strategic Plan and stated mission goals. They are: water supply and protection, environmental stewardship, and increasing the number of green projects.

Regulatory Compatibility

These factors are related to the regulations and oversight that might apply to enacting any use to the property. They include if the use is allowed by zoning, either by-right or through special use permit, if permitting or site plan applications are not required, and if the use is permitted within the conservation deed restricted area.

Site Compatibility

The factors in this category relate to the physical properties of the site and if the use is compatible with that feature. Factors were phrased so that they would score higher if there was less encumbrance. It may be possible to install a use on site that does not score highly in one of these categories, but there will be more limitations or challenges to doing so. The feasibility factors evaluated in this category are: no access road required, no water/sewer required, compatible with steep slopes, and compatible with the construction of a reservoir in the future.

Management and Operations Compatibility

These factors relate to the management and operation of the uses on site. The evaluated factors are: regional market potential, potential for partnerships in the development and operation of the use, revenue generation potential, and limited long-term oversight by RWSA for the function of the use. The market potential is based on the Market Potential Index for Albemarle County developed by PROS using data from ESRI. The Market Analysis evaluates the recreation and restaurant market potential for a use. The use scored positively in this category if the market was unsaturated and local interest was higher than the national average.

Scoring

The matrix scores the compatibility of each use with the feasibility factor. The higher the use's score the greater its potential feasibility for development. The scoring was conducted in two methods, a simple 1-point scoring and a weighted scoring.

Simple Scoring

The simple score is a straightforward yes/no for compatibility. If the use is compatible with the feasibility factor it is given a 1. If it is incompatible it received no score (0). The advantage with this scoring system is that there is no subjectivity in the scoring. The highest possible total score a use could receive is 14. The highest scoring uses were hunting (12), environmental research (12), hiking (11), fishing (11), equestrian trails (10), property access agreements (10), and land leasing (10). The lowest scoring uses were archery (6), camping (7), and all development uses (7).

Weighted Scoring

The weighted scoring method gives a high potential score to certain factors. For example, the RWSA Objective "Water Supply and Protection" is the primary mandate of the RWSA, and is more important in the final use selection than "Road Access". The factor with a greater importance is given a higher possible score. This allows factors of high determined importance or impact on feasibility to have greater sway on the final compatibility scoring. For example, "Water Supply and Protection" is given a weighted score of (5). Uses that are compatible with this factor are now (4) points higher than they would have been otherwise.

The weighting of factors also provides a sliding scale for compatibility. For example, Hiking Trails, if developed sustainably, are highly compatible with "Water Supply and Protection" and receive a score of (5). A brewery however causes more land and water quality impact and receives a score of (1). In the simple scoring system, both uses would have received (1), though they clearly have differing impacts on water supply and protection.

The factors with a scoring weight greater than (1) are "Water Supply and Protection", (5); "Environmental Stewardship" (3); "By-Right Zoning", (2); "Future Reservoir Potential", (3); and "Market Potential", (3). By-right zoning guarantees a use of the site, which is why it is given a weight of (2). If the use requires a special permit, it is given a (1). Future Reservoir Potential is given a weight of (3), as determined based on past meetings with RWSA about future water supply. This score is not graduated, it is either (3) or (0). Market Potential is weighted at (3) in consideration that if there is weak market demand for a use then it will not be successful long term. Compatibility of each uses is scored 0-3, depending on the rating of the MPI conducted by PROS. If the use has high market potential it scores (3), if moderate market potential it scores (2), if limited market potential it scores (1), and if no market potential it scores (0).

Weighted scoring gives prominence to important feasibility factors and shows greater nuance of a use's feasibility on the site. The total score gives greater information about the realistic feasibility of constructing a use. A difficulty with weighted scoring is its subjectivity, both in which items are weighted, the level of weight accorded, and the scoring within the range. There are a greater number of nuances to the process that could be contested.

The highest possible total weighted score is 25 points. The highest scoring uses in the weighted evaluation are hiking trail (22), hunting (22), environmental research (21), mountain biking trails (20), fishing (20), and equestrian trail (19).. The lowest scoring are development (7,8) and selling the land (8).

Figure 6: Use Compatibility Analysis (Simple)

	FEASIBILITY														
	RWSA Objectives Compatability			Regulatory Compatability			Site Compatability				Operations Compatability				Score
USES	Water Supply and Protection	Environmental Stewardship	Increase # of "green projects"	Zoning (By-right-2; SUP-1)	No Permitting/Site Plan Application	Encumberance (deeded conservatio	No road access required	No water/sewer required	Steep slope compatable	Future resevoir potential	Market potential	Partnership potential	Revenue generation potential	Lmtd long-term RWSA oversight req	
Max Score:	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*14*
Divestment															
Sell Land					1	1	1	1	1		1		1	1	**8**
Land Management															
Property Access Agreements	1	1			1	1		1	1	1	1	1	1		**10**
Land Leasing	1	1			1	1	1	1	1	1	1		1		**10**
Passive Recreation															
Hiking Trail	1	1		1	1	1	1	1	1	1	1	1			**11**
Equestrian Trail	1	1		1	1	1	1	1	1	1	1				**10**
Mountain Biking Trail	1	1		1			1	1	1	1	1	1			**9**
Fishing	1	1		1	1	1	1	1	1	1	1		1		**11**
Hunting	1	1		1	1	1	1	1	1	1	1	1	1		**12**
Active Recreation															
Archery	1			1				1		1	1	1			**6**
Camping	1			1						1	1	1	1	1	**7**
Development															
Brewery/winery/distillery	1			1						1	1	1	1	1	**7**
Restaurant	1			1						1	1	1	1	1	**7**
Environmental Center	1			1						1	1	1	1	1	**7**
Other (horse stable, vet, etc zoning permitted)	1			1						1	1	1	1	1	**7**
Resource Development															
Solar	1	1	1	1				1		1	1	1	1	1	**9**
Wind	1	1	1	1				1		1	1	1	1	1	**9**
Silviculture	1			1				1	1	1	1	1	1		**8**
Environmental Research	1	1	1	1		1	1	1	1	1	1	1	1		**12**
Plant nursery	1	1	1							1	1	1	1	1	**8**

LOW ↑ RWSA Involvement ↓ HIGH

One point is given to the use if it is compatable with the evaluation category

14 is the maximum possible score

The higher the score, the more compatable the use is with the property

Figure 7: Use Compatibility Analysis (Weighted)

USES	FEASIBILITY														
	RWSA Objectives Compatability			Regulatory Compatability			Site Compatability				Operations Compatability				Score
	Water Supply and Protection	Environmental Stewardship	Increase # of "green projects"	Zoning (By-right-2; SUP-1)	No Permitting/Site Plan Application	Encumberance (deeded conservatio	No road access required	No water/sewer required	Steep slope compatable	Future resevoir potential	Market potential	Partnership potential	Revenue generation potential	Lmtd long-term RWSA oversight req	
Max Score:	*5*	*3*	*1*	*2*	*1*	*1*	*1*	*1*	*1*	*3*	*3*	*1*	*1*	*1*	*25*
Divestment															
Sell Land					1	1	1	1	1		1		1	1	**8**
Land Management															
Property Access Agreements	5	3			1	1		1	1	3	1	1	1		**18**
Land Leasing	5	3			1	1	1	1	1	3	1		1		**18**
Passive Recreation															
Hiking Trail	5	3		2	1	1	1	1	1	3	3	1			**22**
Equestrian Trail	5	3		2	1	1	1	1	1	3	1				**19**
Mountain Biking Trail	5	3		2			1	1	1	3	3	1			**20**
Fishing	5	3		2	1	1	1	1	1	3	1		1		**20**
Hunting	5	3		2	1	1	1	1	1	3	2	1	1		**22**
Active Recreation															
Archery	5			2				1		3	1	1			**13**
Camping	3			1						3	3	1	1	1	**13**
Development															
Brewery/winery/distillery	1			2						1	1	1	1	1	**8**
Restaurant	1			1						1	1	1	1	1	**7**
Environmental Center	1			1						1	1	1	1	1	**7**
Other (horse stable, vet, etc zoning permitted)	1			1						1	1	1	1	1	**7**
Resource Development															
Solar	4	2	1	1				1		3	3	1	1	1	**17**
Wind	4	2	1	2				1		3	3	1	1	1	**18**
Silviculture	1			2				1	1	3	3	1	1		**13**
Environmental Research	5	3	1	2		1	1	1	1	3	1	1	1		**21**
Plant nursery	4	2	1							3	1	1	1	1	**14**

LOW ← RWSA Involvement → HIGH

Points are given to the use if it is compatable with the evaluation category

The feasibility factors are weighted by importance, with more important factors given a higher maximum score. Scoring is assigned within the point range based on limiting factors

The higher the score, the more compatable the use is with the property. The maximum possible points a use can receive is 25

Land Use Potential Mapping

There are four potential land use types on the Buck Mountain property that inform what land use can be implemented on any specific location. The four types are A: Field, B: Forest, C: Conservation Area, and D: Road Access (overlay). These descriptions were identified based on a series of related site features. Only certain types of uses are appropriate for each of these themed areas. The **Land Use Potential Map** delineates the locations of these four use areas. RWSA can cross reference the map and Land Type Compatibility Analysis chart (Figure 8) to locate uses on the site.

Figure 8 is the *Land Type Compatibility Analysis.* This chart examines which land use is compatible in each of the four mapped land types. If the use is incompatible with the land type it is blank and red, if compatible it is checked green, and if the land use is a requirement for the use it is double checked dark green.

Figure 8: Land Type Compatibility Analysis

USES	LAND TYPE COMPATABILITY: A - Field	B - Forest	C - Conservation Restrictions	D - Road Access Overlay
Divestment				
Sell Land	✓	✓	✓	✓
Land Management				
Property Access Agreements	✓	✓	✓	✓
Land Leasing	✓	✓	✓	✓
Passive Recreation				
Hiking Trail	✓	✓	✓	✓
Equestrian Trail	✓	✓	✓	✓
Mountain Biking Trail	✓	✓	✓	✓
Fishing			✓	
Hunting	✓	✓	✓	✓
Active Recreation				
Archery	✓	✓		✓✓
Camping	✓	✓		✓✓
Development				
Brewery/winery/distillery	✓			✓✓
Restaurant	✓			✓✓
Environmental Center	✓			✓✓
Other (horse stable, vet, etc zoning permitted)	✓			✓✓
Resource Development				
Solar	✓			✓✓
Wind	✓			✓✓
Silviculture	✓	✓		✓✓
Environmental Research	✓	✓	✓	✓
Plant nursery	✓			✓✓

Scoring:
(red) = incompatable
✓ = compatable
✓✓ = requirement

Land Area A – Field

The land type is identified on the map as any open field or pasture that is outside of the conservation deed restricted area. There is a total of approximately 226 acres of Land Area A in the project area.

All of the potential land uses are compatible with Land Area A – Fields, except for fishing. Fishing requires a river channel, which is only found in Land Area C – Conservation Restrictions. Silviculture is possible within Land Area A – Fields if the land is planted with appropriate timber species and harvested when mature.

The map locates steep slope areas within the project area, some of which overlay Land Area A – Field. RWSA must refer to the Use Compatibility Analysis chart when developing the site determine if a use that is possible in Land Area A must be positioned to avoid the steep slope.

Land Area B – Forest

This land type is identified on the map as any existing forest that is outside of the deed restricted area. There is a total of approximately 475 acres of Land Area B – Forest in the project area.

There are additional limitations to the use possibilities within this land area. Besides fishing limitations, as with Land Area A – Field, development and resource development uses are limited. Silviculture is possible, but building construction, solar, wind, and plant nurseries require open areas. It would be possible for the forest to be cleared to allow this development, though replacing trees with other land cover would have a greater impact on the watershed and water quality than developing fields.

The map locates steep slope areas within the project area, some of which overlay Land Area B – Forest. RWSA must refer to the Use Compatibility Analysis chart when developing the site determine if a use that is possible in Land Area B must be positioned to avoid the steep slope.

Land Area C – Conservation Restrictions

This land type encompasses all of the deed restricted land within the project area, a total of 610 acres. This land area has the greatest limitations for which uses can be located within its boundaries. Only selling the land, land management actions, passive recreation, and environmental research are possible within Land Area C – Conservation Restrictions.

Land Area D – Road Access Overlay

Land Area D is an overlay hatch extending from where a parcel adjoins a road to the conservation restricted area, Land Area C. The road access overlay hatch covers both Land Area A – Field and Land Area B – Field. The distinction is that some land uses that are compatible with Area A or B require road access, and therefore must be sited within the Land Area D – Road Access Overlay.

One of the deed restrictions within the conservation area is that no roads may be constructed within it, effectively blocking the complete use potential of certain parcels that are otherwise designated Land Area A or B. There is a possibility that those locked parcel portions could be accessed by access easements granted by neighboring landowners, or that an existing farm road or trail through the conservation area could be improved. However, these options would require negotiation with land owners and the USACE and Virginia DEQ, and a successful outcome is not guaranteed. Therefore, road access is listed as a requirement for certain uses. All uses within the active recreation, development, and resource development categories must be sited within Land Area D – Road Access Overlay area. The other uses are unaffected by the overlay.

Figure 9: Parcels with road access

<table>
<tr><th>Parcel #</th><th>total acreage</th><th>road access acreage</th><th>total contigous road access acreage</th></tr>
<tr><td>29-35+ (2)</td><td>104.39</td><td>38.27</td><td rowspan="3">59.59</td></tr>
<tr><td>30-3A</td><td>3.64</td><td>3.64</td></tr>
<tr><td>30-1A (1)</td><td>165.56</td><td>17.68</td></tr>
<tr><td>30-1A (2)</td><td>165.56</td><td>70.56</td><td rowspan="3">82.7</td></tr>
<tr><td>30-1A (3)</td><td>165.56</td><td>5.79</td></tr>
<tr><td>29-35F (1)</td><td>21.56</td><td>6.35</td></tr>
<tr><td>29-35F (2)</td><td>21.56</td><td>5.09</td><td rowspan="5">30.93</td></tr>
<tr><td>29-35C (1)</td><td>14.72</td><td>8.88</td></tr>
<tr><td>29-35C (2)</td><td>3.27</td><td>2.34</td></tr>
<tr><td>29-35+ (1)</td><td>104.39</td><td>6.47</td></tr>
<tr><td>29-35C (3)</td><td>10.54</td><td>8.15</td></tr>
<tr><td>18-10F1 (1)</td><td>8.54</td><td>1.5</td><td>1.5</td></tr>
<tr><td>18-10F1 (2)</td><td>8.54</td><td>0.99</td><td rowspan="2">17.06</td></tr>
<tr><td>18-10G</td><td>27.36</td><td>16.07</td></tr>
<tr><td>30-37C+</td><td>5.15</td><td>5.15</td><td>5.15</td></tr>
</table>

Figure 9 charts the acreage of each parcel within the overlay area, as well as identifying contiguous parcels within overlay areas. The contiguous areas expand the potential for development and provide a greater footprint for any of the land uses. RWSA may wish to lease or otherwise develop contiguous overlay parcels to make them more effective for the identified use.

Master Plan Scenarios

There are three potential scenarios for the future of the Buck Mountain property. The scenarios require varying levels of investment and direct oversight by RWSA. They are presented in order of least to most continued involvement by RWSA. Due to the legal binding and responsibility RWSA has for the deeded conservation area within the Buck Mountain property, RWSA will be connected to the site in perpetuity.

The scenarios provide a range of possible land uses within a certain theme. Not all land uses must be developed when selecting a scenario. It is also possible to import land uses from different scenarios, as fits RWSA's goals and requirements.

Scenario 1: Divestment

In this scenario RWSA divests themselves of some or all of the Buck Mountain property, offering the parcels to the original land owners first, and if they refuse, selling on the open market.

Level 1 of divestment would be to sell all of the properties. RWSA involvement with the Buck Mountain property would cease, except for perpetual responsibility for the conservation restricted area connected with the Ragged Mountain Reservoir. RWSA would be responsible for the expense and effort of management, maintenance, and security of the conservation area.

Level 2 of divestment would be to sell some parcels and continue to own the remainder of the Buck Mountain property. Parcels to be sold may be selected based on original land owner request, market value (developability potential, road access, outside of conservation easement), and/or exclusion from the potential reservoir's pool elevation. *Refer to the* ***Land Use Potential Map*** *for properties with road access, the* ***Zoning and Development Potential Map*** *for assessed parcel value, and the* ***Potential Reservoir Map*** *to identify properties above the reservoir pool elevation.* The Elliot House property and surrounding parcels (29-35H, 29-35C, 29-35D, and 29-35F) have the highest potential for market sale, as they have direct access to Buck Mountain Road, a significant portion of the land is outside of the conservation easement and contiguous with the road frontage, and theses portions of the property would remain dry and accessible by road if the reservoir was constructed. However, the entirety of the parcels is within the reservoir buffer zone, so if a reservoir was constructed, use of the property would be severely restricted. The combined assessed value of these parcels is $655,600 and their combined size is 46.1 ac. The average value is $14,200/ac.

HIGH SALE POTENTIAL PARCELS

The Elliot House property and surrounding parcels (29-35H, 29-35C, 29-35D, and 29-35F) have the highest potential for market sale, as they have direct access to Buck Mountain Road, a significant portion of the land is outside of the conservation easement and contiguous with the road frontage, and useable portions of the property would remain dry and accessible by road if the reservoir was constructed. The combined assessed value of these parcels is $655,600 and their combined acreage is 46.1 acres. The average value is $14,200/ac.

It may be possible for RWSA to subdivide parcels, selling portions rather than a parcel's entirety, but the property deeds would need to be researched to determine subdivision rights. Any parcels sold would need to be considered in context of the RWSA's long-term property master plan, to ensure that the sale of parcels would not negatively impact the continued use and management of the remainder of the site.

Potential Uses

If this scenario is followed, the primary use of the site would be the divestment. Under the divestment scenario each parcel could be used and or developed by right, by special use permit or rezoned in accordance with the Albemarle County zoning ordinance and comprehensive plan. These uses range from residential development to agriculture to construction of a house of worship. Land use composure would likely look much like surrounding area.

In a Level 2 divestment scenario, the remainder of the property may be managed according to Level 2: Management or Level 3: Active Development.

Advantages

By selling the land, RWSA reduces their involvement with a large parcel of property, saving staff time and organizational resources. Land holding, except related to reservoirs, is not part of the function of RWSA, so this option would eliminate extraneous responsibilities. RWSA would receive a cash inflow of approximately $10 million for selling all of the land.

Disadvantages

Selling the land eliminates RWSA's control over a portion of the watershed supplying a drinking water reservoir. RWSA would be unable to direct the land use of the properties, which could involve clearing forests and commercial and residential development, all of which would have a negative impact on water quality. It would also be near to impossible for RWSA to purchase the property back at some point in the future, should circumstances change and an additional reservoir need to be built.

Scenario 2: Land Management

This scenario is closest to the current operation of the Buck Mountain property. RWSA maintains ownership of the property and full management of the property. RWSA can choose to lease parcels to adjacent landowners and to allow access through agreement from outside organizations, both of which are currently done. An expansion of use from the current situation would be the potential to lease the land or develop a use agreement for environmental research.

If this scenario is selected, RWSA will need to take a more active role in managing the land and resources than is currently done. There will need to be a forest management plan to ensure the high quality function of the landscape (deer management, invasive species management). RWSA will need to invest in the property, including constructing ATV trails for full maintenance access of the property, installing and repairing gates and fencing, and posting boundary and trespassing signs. As pasture and field lease holders let their leases expire, RWSA may wish to consider managed succession in those fields. Managed succession would convert the fields, which require regular mowing, into healthy stratified forests. Forests require less active maintenance and reduce water runoff, compared to fields. Refer to the *Environmental Report* **(Appendix B)** prepared by VHB for a full recommendation list. This active management role will require dedication of RWSA resources, including budget and staff time.

Working with lease holders and groups with access agreements does offer partnership potential for some of the land management, including surveillance and land inspection. Requirements to this effect can be included in the lease and access agreements. It is recommended that RWSA revise the leasing schedule to be more consistent with market rates, especially considering that hunting is permitted by lessees.

Potential Uses

If this scenario is followed, potential uses include leasing land parcels, granting access easements to organizations, and use agreements for environmental research. Partners for environmental research could be universities or schools looking for field sites, or local environmental groups or companies that are interested in plant cataloguing or propagation.

Advantages

A major advantages to the land management scenario is that RWSA maintains control over the land and its water quality and there is potential for a reservoir to be constructed if water needs and environmental regulations change at a future point. Managing the land in its current land cover maintains the current high quality watershed feeding Ragged Mountain Reservoir. This scenario does require active management by RWSA, but the scope is limited.

Disadvantages

The Land Management scenario requires RWSA to be responsible for maintaining a large tract of land with all the associated responsibilities of maintenance, patrolling, funding, and staff time. This is an expansion to the primary objective of providing high quality reliable drinking water service. However, maintaining a high quality watershed does positively affect this primary objective.

Scenario 3: Active Amenitization

In the active amenitization land use scenario, RWSA maintains ownership of the land while expanding the active uses on site. Some of these uses could generate income for RWSA, provide land management partners, and change existing land cover. This option allows the greatest number of uses on the property. If RWSA selects this option, it would need to commission a development master plan for the site, which would include selecting the programs, locating them on site, and developing cost estimates. Many of the uses would function best as partnerships, as the use would be an expansion beyond RWSA’s current purview of water supply and service. Once RWSA has determined the programming and location through the master plan process, RWSA can publish a Request for Information (RFI) seeking an applicant to develop and manage the proposed program. The RFI defines RWSA’s goals and stipulations; the applicant conducts a market analysis, develops a business plan, and oversees operation. Additional information about the partnership selection and agreement process can be found in the **Appendix C: *Recreation Market and Partnership Analysis Report*** developed by PROS Consulting.

Uses:

There are two levels of active amenitization. Level 1 includes leasing the land, access agreements, and passive recreation on site. Level 2 is more intensive, comprising all the Level 1 activities as well as development and resource development site uses.

‘Level 1-Active Amenitization’ is very similar to ‘Scenario 2: Land Management’, except that it encourages public use of the site. A similar example is how the Ragged Mountain property is operated. A Level 1 Active Amenitization scenario would be a good neighborly relations opportunity. A policy of restricting hunting, fishing, motorized vehicle access (including ATVs), and fires while permitting walking and horseback riding would be in alignment with the rural character of the area while still protecting watershed quality. It is common for watershed property to allow general public access, sometimes even permitting hunting in certain areas.

Level 2 has a more noticeable impact on the property, changing land use and land cover from the current conditions. Construction and resource development may also affect the water quality within the watershed of South Rivanna Reservoir.

Advantages

Developing active uses on the site brings the potential for income generation from the development partners or by sale of resources. Income will vary based on the use and the agreement developed with the partners.

With each use partner, RWSA will also gain a land management partner and can shift responsibilities of land management to an organization better suited to the task.

Instituting new uses on the site will open the Buck Mountain property as a public resource, which serves the wider community and increases goodwill towards RWSA.

Some of the active land development uses are green projects, like solar and wind energy generation, which fulfills one of RWSA's strategic goals of increasing the number of green projects.

Disadvantages

The primary disadvantage of any of these expanded uses of the property is that they are outside of, or tangential to, RWSA's stated objective of drinking water supply and service. All of these uses would require additional resources contributed by RWSA, including staff and funding. Securing additional resources, either through partnerships or budgetary grants, will be key.

Silviculture may be a use that offsets RWSA input with additional budget, but at a larger cost of reduced watershed quality and drinking water quality. Even a well-managed forestry plan still results in a reduction of mature forest land cover and disturbance to the ground surface. Limiting silviculture to upland and gently sloping areas and securing an additional water quality buffer around the harvested lands would reduce the potential impact to watershed quality.

Figure 10: Master Plan Scenarios

Scenario 1: Divestment		**Potential Land Uses:**
Pros:	Reduces RWSA involvement with a large land holding to the bare minimum required by the conservation easement	Sell the land
	RWSA gains sale money, approximatley $10 million	
Cons:	RWSA loses control over future of land use, which could potentially be detrimental to drinking water quality	
	Potential for reservoir is lost	

Scenario 2: Land Management		**Potential Land Uses:**
Pros:	RWSA maintains control of the land, directing land use and reserving the potential for a reservoir	Parcel leasing Access agreements Environmental research
	Limited active management required by RWSA	
	Most similar to current use	
Cons:	RWSA is responsible for actively maintaining a large property	
	Expansion beyond primary task of water supply and service	

Scenario 3: Active Development		**Potential Land Uses:**
Pros:	Potential for income generation	Parcel leasing Access agreements Environmental research Passive recreation Development Resource Development
	Parternship potential for land management responsibilities	
	Open the Buck Mountain property as a publicly accessible resource	
	Increase number of RWSA green projects, a strategic goal	
Cons:	Uses are outside of RWSA's primary scope and objectives	
	Uses require additional RWSA resources including budget and staff time	
	Potential reduction in watershed quality, reducing Ragged Mountain Resevoir water quality	
	Public may protest use of property for other than original goals of reservoir and watershed protection	

Site Feature Scenarios

There are several features on the Buck Mountain property that require special consideration by RWSA, either because they pose a hazard potential or require additional resources to maintain. This report summarizes the background and conditions of each feature and provides potential scenarios to address each feature. The recommend scenario is marked with a box.

Allen Farm Lane Bridge

Allen Farm Lane low-water bridge and ford

At the northeastern tip of the Buck Mountain property Buck Mountain Creek is crossed by Allen Farm Lane, a private road that provides access to ten (10) residential properties. The Allen Farm Lane bridge over Buck Mountain Creek is a one-lane low-water concrete bridge with curbs. There is an adjacent ford that provides passage to heavy vehicles. When RWSA acquired the Buck Mountain property they also accepted responsibility for maintaining the bridge. RWSA commissioned a structural analysis in 2005 and 2019 which shows that the bridge is structurally sound but required minor repairs. A load analysis has not been conducted, but the structural analysis confirmed that the bridge is sufficient for normal car traffic. This is a low-water bridge located within the 100-year floodplain and is covered by water several times a year during major storm events. As a local governmental entity, RWSA has sovereign immunity, which provides liability related to any accidents on the bridge. It is unclear at this time if RWSA accepted responsibility for maintaining the bridge when it acquired the property. It is also unclear if RWSA is responsible for providing constant access to the properties in all weather conditions, or if because the low-water crossing bridge was an existing condition when residents bought the property, they assumed that risk. Further deed research is required to determine what level of access and responsibility RWSA assumes by the ownership of the bridge on this private road.

Scenario 1: Existing Condition to Remain

RWSA would leave the situation as it currently exists. RWSA has confirmed that the bridge is structurally sound and will continue to check and maintain the bridge. Property owners were aware of the road access when they purchased property, so the maintenance of the existing crossing type maintains purchase conditions. LPDA recommends that RWSA pursue this option

Scenario 2: Provide Alternate Access

RWSA would provide alternate access to the residential properties. Constructing a new bridge would cost several million dollars, which is impractical. Allen Farm Lane connects to Buck Mountain Ford Lane (Rt. 776) to the west. Through access is not currently possible, as Allen Farm Lane crosses gated private property (parcels 17-35G1 and/or 17-35M), RWSA may be able to negotiate an access easement with the private property owner(s) and invest in improving the road surface. This would provide emergency access to the Allen Farm Lane residences independent of flood conditions.

Farm Pond and Dam

One of the parcels in the Buck Mountain property contains a farm pond with an earthen dam. The dam and pond are on parcel #17-35D4. The dam and pond were constructed by the original property owner, who live adjacent to the dam and would like the pond to remain in place. The pond currently functions as a water source for horses pastured in the parcel. RWSA is responsible for the dam and its maintenance. The dam is currently in poor condition, with trees growing on the downstream side of the earthen dam. The dam falls under the Virginia Department of Conservation and Recreation (DCR) dam safety permitting program and does not meet DCR dam safety standards. RWSA has applied for an exemption based on the pond's size and agricultural use, but DCR has not confirmed the status as of July 2020. RWSA has determined that there are no residences within the dam break inundation zone, which decreases the liability of the dam. RWSA's liability for drowning in the pond is limited, because as a local government entity RWSA is protected by sovereign immunity.

Scenario 1: Maintain Dam

Maintaining the dam in its current design is only possible if DCR grants an agricultural use exemption for the dam. RWSA would perform routine maintenance on the dam, including keeping the culvert open and removing trees from the earthen dam. This scenario requires the least total resource dedication by RWSA, though would require long-term maintenance, and would satisfy the wishes of the adjacent land owner. The pond would gradually silt up over time until it returned to a stream channel. As the dam would have limited impact if it failed, fosters good neighbor relations, and requires limited lifetime maintenance, LPDA recommends RWSA proceed this this option.

Scenario 2: Improve Dam to Virginia Department of Conservation and Recreation Standards

RWSA could improve the dam to meet DCR standards, either because required by DCR or to reduce the risk of dam failure. RWSA estimates that it would cost approximately $50,000 to bring the dam into compliance. After investing in improving the dam,

Farm pond and earthen dam

POND AND DAM COSTS

Maintenance:

$5,000/year – regular mowing and clearing

Improvement and Operation to DCR Standards:

<$10,000 – install trash rack over riser pipe, remove debris and riser to deter beavers

~$60,000 – install new spillway siphon system for reservoir level control with bult-in reservoir drain (beaver-proof)

$10,000-$20,000 – performance of dam break inundation study and PMP analysis (potential for grant funding)

$300/6-year – recurring 6-year operations and maintenance certificate

$5,000/year – regular mowing and clearing

Staff time – compliance with dam safety regulations

Total: $75,000-$90,000 initial investment, ~$6,000/annual upkeep

Removal:

~$150,000-$300,000 – breach the dam*

**based on similar 2018 estimate*

RWSA would continue to be responsible for the long-term maintenance of the dam. The pond would remain in place, provide enjoyment for the adjacent property owner and water access for pastured livestock. The pond would gradually silt up over time until it returned to a stream channel.

Scenario 3: Remove Dam

Removing the dam would eliminate lifetime maintenance by RWSA as well as any potential liability for dam failure or drowning in the pond. The pond would need to be dewatered and the silt removed and disposed of properly. If horses or other livestock were continued to be pastured on the property an alternate water source would need to be constructed, potentially funded by the lessee. Breaching the dam would cost approximately $150,000-$350,000. (Cost based on cost estimate of breaching the Ivy MUC Dam, which has a similar size and impoundment, provided by Schnabel in January 2018).

Elliot House

The Elliot House is a 2-story home constructed in the late 19th century with several additions constructed about 1905. It is located on parcel #29-35H, street address 1880 Buck Mountain Road. The house has driveway access to Buck Mountain Road, though with poor visibility. There is a well, but no other structures on the property. RWSA leased the house as a residence until approximately 2012. The decision to stop leasing was made because the structure required significant structural repair and RWSA did not deem those repairs an efficient use of resources. The house and property were closed and locked at that point. Deterioration of the structure has continued, as well as some minor acts of vandalism, in the years since.

The Elliot House is currently unoccupied

The Elliot House is a documented historical resource, but is not designated as historically significant. This means that there are no restrictions to what can be done to the structure, as long as the associated project does not require state or federal action, such as a wetland permit.

Scenario 1: Demolish House

The Elliot House has no direct benefit to RWSA, either as office or rental space. RWSA would demolish the house after coordinating with the Virginia Department of Historic Resources (DHR) to allow DHR to gather additional data on the house before it is removed. It is also recommended that RWSA consult with a professional archaeologist on any activity that may affect this historic resource. After the site is documented, the house would be demolished, potentially with some salvage of materials. Demolishing the structure is the simplest way to remove the potential liability of the property. The disadvantage would be the reduction of the regional cultural landscape. The house is built in the local vernacular style and adds value to the area's character.

Scenario 2: Sell Property

Selling the property removes RWSA's involvement and liability while potentially preserving the house. RWSA would advertise and sell the property and house to an outside individual or party. Ideally, the new owner would invest funds in refurbishing the house. The house has historic charm and is well sited for access to the interior of the Buck Mountain property, increasing its appeal to a partner organization. In this scenario RWSA gains the sale value of the house and property and the liability and responsibility of the structure is removed. However, by selling the house and property on the open market RWSA relinquishes control of both the future use of the land and the house. There is the potential that the new owners would raze the house and develop the site in an incompatible use to the larger Buck Mountain master plan. If RWSA can identify a compatible organization to sell the property to, LPDA recommends this option.

Scenario 3: Stabilize and Seek Partner

This scenario balances RWSA's investment in the property with the highest and best use of the property. RWSA would commission a limited architectural assessment of the building to determine the building's stability, necessary improvements, and associated costs. If the assessment reveals major structural flaws, the house would be demolished, in accordance with Scenario 1. If the house is solid, then RWSA would stabilize and seal it and begin searching for a partner to refurbish the property. The partner search would be conducted by issuing a Request for Information (RFI). There is the potential that the house could be rehabilitated as the headquarters, visitors center, or educational camp for the primary land management partner of the full Buck Mountain property. The house has historic charm and is well sited for access to the interior of the Buck Mountain property, increasing its appeal to a partner organization.

Scenario 4: Full Refurbishment by RWSA

In this scenario RWSA would fully refurbish the house and seek a tenant, either residential, office, or commercial, to occupy the property. It is recommended that RWSA consult with a professional archaeologist prior to beginning any refurbishment project. The house, as a vernacular amenity, would be preserved and RWSA would gain additional observation of the Buck Mountain property as a whole. However, this scenario involves significant financial investment by RWSA and an expansion of RWSA's responsibilities to "landlord". This scenario would only be practical if additional funding and resources are appropriated for the construction and long-term maintenance of the Elliot House.

Conclusion

The Buck Mountain property has been under RWSA's control for almost 50 years but there has not been a cohesive action plan since the reservoir was rejected. There is an opportunity now to optimize the use of this resource and align the management of the property to serve the larger goals of RWSA. This report is the first step in that process, bringing together into one document all of the information about the site and providing in depth details that RWSA can refer to when making their final decision about the future of the property.

Given the potential for change in water supply demand, environmental priorities, and the watershed protection mission, it is logical for RWSA to continue to own and manage the Buck Mountain property. Keeping the property under RWSA ownership allows RWSA to control the land use and protect the water quality contributing to the South Rivanna Reservoir. It would also be logical to attempt to capture some benefit from the property with uses and activities that align with, complement, and/or enhance the mission objects through direct management or partnerships with other organizations. Unless supplemental funding would be available to the RWSA for additional resources and staff time, it is important that the responsibility for cost and management efforts be borne by others, or that proposed uses be sustainable and essentially self-maintaining within the baseline of general land management.

Consultant Recommendations

*Based on an analysis of the property, regional recreation market, and objectives of the RWSA, LPDA recommends the property be developed to **Scenario 3: Active Amenitization (Level 1).***

RWSA would maintain possession of the nearly the entire property, preserving high quality watershed land and keeping future water resource options open. The Elliot House would be the single parcel sold. The buyer would be compatible organization that would refurbish the structure. The focus of the Buck Mountain property would be on environmental uses. RWSA would have a primary partnership with a recreational management organization to manage all or a majority of the Buck Mountain property. That portion of the property would be developed and managed by the partner entity and open to that entity's user base. The partnership entity might be a parks department, outdoor education group, outdoor recreation business, or hunting club. Developing a land use partnership will allow RWSA to transfer a majority of the land management responsibility to an organization better equipped for the task and perhaps also generate revenue.

RWSA may also choose to grant concurrent use agreements in addition to the primary land management partnership, potentially signing access agreements with local horseback riding organizations, allowing parcels to be leased to adjacent property owners, or partnering with environmental research organizations. These agreements may serve RWSA with increased public goodwill, revenue generation, land management services, and/or furthering of the Authority's environmental stewardship objectives.

RWSA may also choose to separate out specific parcels from the overall land management partnership and develop them in a more specialized manner. Solar farming, wind generation, and plant nursery development would all generate revenue while furthering the Authority's objectives of water supply and protection, environmental stewardship, and increasing green projects. These uses can be implemented at a later time, should RWSA choose. The first step would be advertising a request for proposals for the identified use. Based on the site and the regional market, solar generation would likely be the most feasible, though given the wooded and hilly nature of the site, the scale and cost of initial investment may not make solar a viable option. LPDA does not recommend the Buck Mountain site be used for silviculture. Timber harvesting will reduce the function of the site as a watershed quality improvement area and increase the vulnerability of the site to invasive species degradation.

The Elliot House contributes to the character and history of the region, though it is not historically significant. The highest and best use for it would be to be refurbished and used by an outside organization, perhaps as the headquarters or visitors center for the primary land management partnership entity.

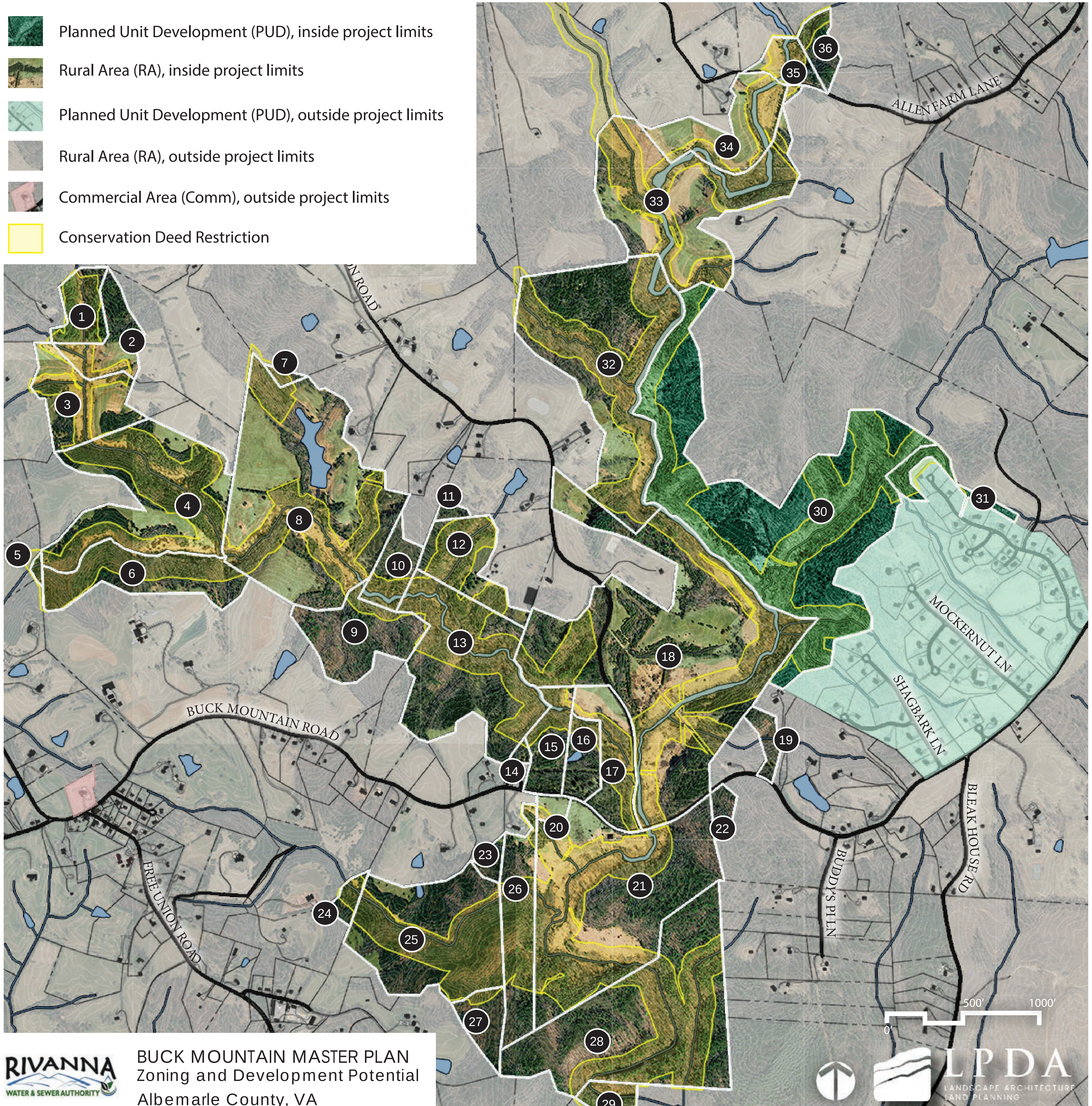
Next Steps

This report analyzes the conditions of the Buck Mountain property, evaluates the compatibility of a series of potential land uses, and then offers three potential scenarios for the future of the property. LPDA has offered their recommendation for the site's future use for RWSA's consideration. RWSA can now select and proceed with the scenario and land uses that best fits its goals, objectives, and values.

APPENDIX A

Land Use Analysis Maps


1
Excellent Mountain Views
2
Earthen Dam and Constructed Pond
8
Allen Lane low water crossing limits resident and emergency access
LEGEND
RIPARIAN FOREST RESTORATION AREA
CONSERVATION DEED RESTRICTION
ATV TRAILS AND DIRT ROAD
Access to northern property area. The landowner has granted permission for RWSA access on private drive
Catterton Farm Property. House moved offsite for reservoir project
ALLEN FARM LANE
CATTERTON ROAD
BUCK MOUNTAIN CREEK
ELK RUN RD
PINEY CREEK
BURRUSS BRANCH
ELK RUN
PELHAM RD
MOCKERNUT LN
SHAGBARK LN
HOMESTEAD FARM LANE
FREE UNION ROAD
BUCK MOUNTAIN ROAD
BUDDY'S LN
BLEAKHOUSE RD
5
Established farm road beds and ATV trails offer limited access routes through the site
6
Exposed rock outcropping alongside the farm road bed
3
The Elliot House, built in 1905 and listed on the Virginia Historical Resources, has been unoccupied for three years and is falling into a state of disrepair
An agreement with the vineyard grants RWSA limited access rights through the property
Poor driveway alignment and sight lines
Unsecured gates
Barn used by farmer to store equipment
4
Unauthorized ATV riding damages riparian restoration efforts
7
Streambank erosion in mitigation area requires RWSA maintenance. Most mitigation improvements are in good condition.
RIVANNA
WATER & SEWER AUTHORITY
BUCK MOUNTAIN MASTER PLAN
EXISTING PHOTO INVENTORY
ALBEMARLE COUNTY, VIRGINIA
Scale: 1" = 500'
LPDA
LANDSCAPE ARCHITECTURE
LAND PLANNING



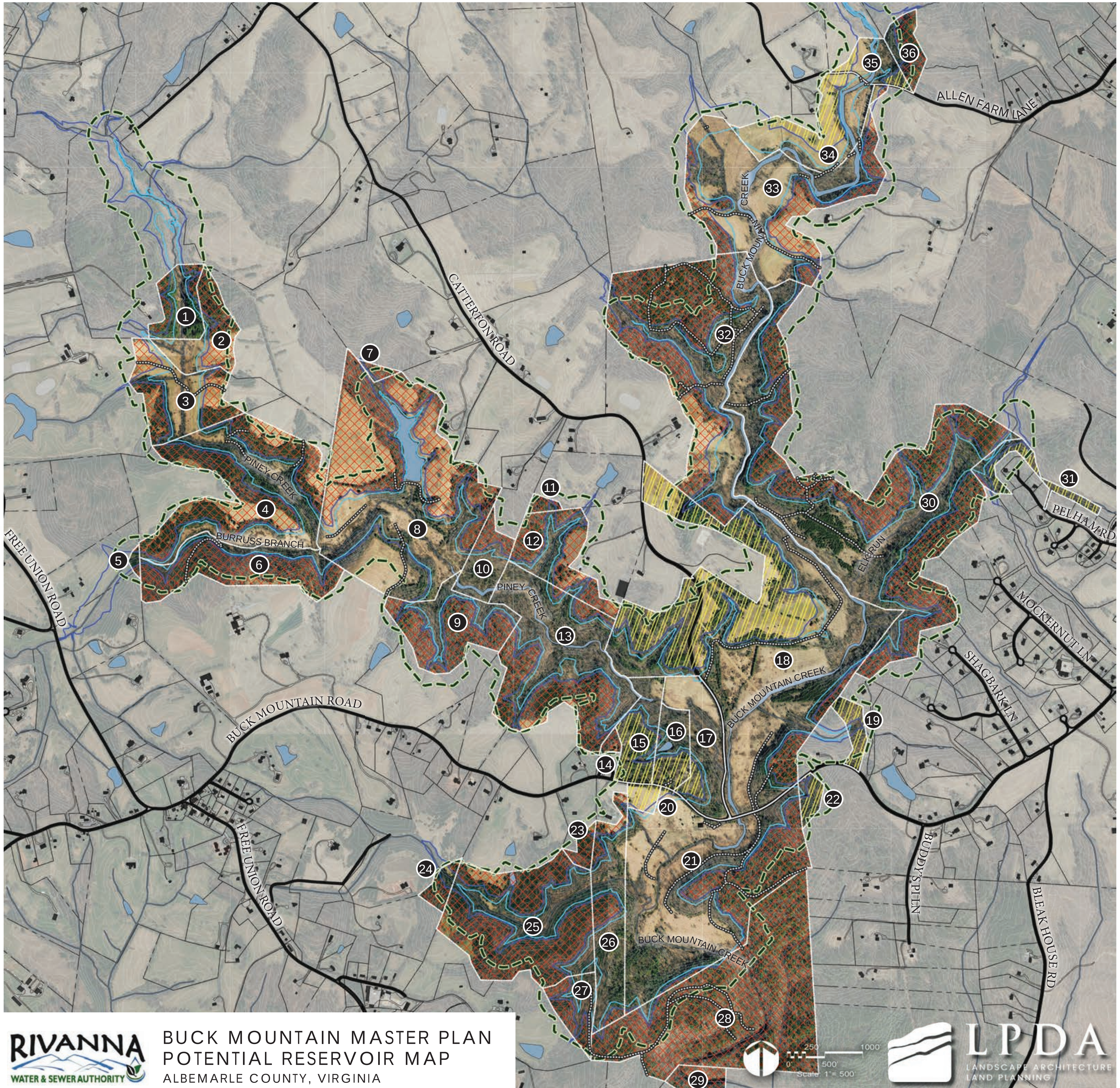
Key ID	Parcel Tax ID	Zoning	Acres	Parcel Development Potential	Tax Assessed Value
*1	01700-00-00-022C0	RA	17.7	0	$172,200
2	01700-00-00-022D0	RA	18.19	5	$176,900
3	01700-00-00-021G0	RA	24.51	5	$233,600
4	02900-00-00-033B1	RA	66.02	7	$369,100
*5	02900-00-00-031B1	RA	0.95	0	$12,700
6	02900-00-00-033E0	RA	27.72	5	$148,100
7	01700-00-00-035D3	RA	1.5	1	$21,400
8	01700-00-00-035D4	RA	117.95	10	$1,207,700
9	02900-00-00-033F0	RA	28.07	5	$252,400
10	02900-00-00-033C0	RA	10.72	5	$60,300
11	02900-00-00-034C1	RA	1.82	1	$16,600
12	02900-00-00-034A0	RA	25.12	5	$256,000
13	02900-00-00-036A0	RA	63.01	7	$388,000
14	02900-00-00-035E0	RA	1.35	1	$87,400
15	02900-00-00-035D0	RA	16.39	5	$187,000
16	02900-00-00-035H0	RA	9.02	4	$324,700
17	02900-00-00-035F0	RA	19.68	5	$126,600
18	08000-00-00-00A0	RA	159.96	12	$1,384,700
19	03000-00-00-037C0	RA	4.24	2	$30,300
20	02900-00-00-035C0	RA	1.01	1	$17,300
21	02900-00-00-035O0	RA	110.74	9	$708,500
22	03000-00-00-003A0	RA	3.14	1	$44,900
23	02900-00-00-049A1	RA	3.17	1	$43,500
24	02900-00-00-045A1	RA	2.58	1	$40,600
25	02900-00-00-049A2	RA	59.87	7	$453,200
26	02900-00-00-035G0	RA	26.01	5	$133,000
27	02900-00-00-050A0	RA	6.1	3	$48,400
28	03000-00-00-00200	RA	98.88	9	$578,700
*29	03000-00-00-010A1	RA	5.75	0	$30,800
30	03000-00-00-38A0	PUD	151.48	56	$884,200
*31	03000-00-00-041A0	PUD	3.2	0	$45,700
32	01700-00-00-035B1	RA	91.02	8	$945,900
33	01800-00-00-011A0	RA	81.57	8	$220,600
34	01800-00-00-01G0	RA	27.36	5	$87,800
35	01800-00-00-01of1	RA	8.56	4	$19,300
36	01800-00-00-019A3	RA	8.03	4	$54,200
RA - TOTAL POTENTIAL DWELLING UNITS:				151	
PUD - TOTAL POTENTIAL DWELLING UNITS:				56 - 3976	
TOTALS				207-4,183	$9,812,300

** Note: Acres in conservation restrict development potential*

Residential Area (RA): By-right zoning permits a parcel to be divided into 5 lots, minimum of 2 acres each. Land may be divided into parcels larger than 21 acres without counting towards the 5 lot total.

Note:Calculationisthemaximumpotentialdivisionrights.Additionalresearchrequiredtodeterminetheaccuratedivision rights for each parcel.

Planned Unit Development (PUD): By-right zoning permits up to 35 dwelling units per acre with 25% of land left as open space. However, due to site restrictions like access and utilities, the maximum reasonable density is calculated in line with the adjacent development, 2 acre lots on 75% of the property.



RIVANNA
WATER & SEWER AUTHORITY

BUCK MOUNTAIN MASTER PLAN
POTENTIAL RESERVOIR MAP
ALBEMARLE COUNTY, VIRGINIA

Key ID	Parcel Tax ID	Parcel Acres	Total Dry Acres (outside potential reservoir)	Dry Acres Connected to Road Frontage	Dry Acres Outside 300' Buffer
1	01700-00-00-022C0	17.7	3.84	0	0
2	01700-00-00-022D0	18.19	9.68	0	0
3	01700-00-00-021G0	24.51	13.17	0	0
4	02900-00-00-033B1	66.02	39.2	0	1.13
5	02900-00-00-031B1	0.95	0.39	0	0
6	02900-00-00-033E0	27.72	23.56	0	2.5
7	01700-00-00-035D3	1.5	1.4	0	0
8	01700-00-00-035D4	117.95	53.7	0	12.35
9	02900-00-00-033F0	28.07	17.72	0	0
10	02900-00-00-033C0	10.72	3.26	0	0
11	02900-00-00-034C1	1.82	1.56	0	0
12	02900-00-00-034A0	25.12	14.46	0	0
13	02900-00-00-036A0	63.01	23.29	0	0.2
14	02900-00-00-035E0	1.35	1.42	0	0
15	02900-00-00-035D0	16.39	8.72	8.72	0
16	02900-00-00-035H0	9.02	4.55	4.49	0
17	02900-00-00-035F0	19.68	2.25	2.25	0
18	08000-00-00-00A0	159.96	62.24	55.54	3.96
19	03000-00-00-037C0	4.24	4.59	4.59	0.37
20	02900-00-00-035C0	1.01	2.94	2.94	0
21	02900-00-00-035O0	110.74	24.13	0	5.23
22	03000-00-00-003A0	3.14	3.09	3.09	0
23	02900-00-00-049A1	3.17	2.92	2.92	0
24	02900-00-00-045A1	2.58	2.95	2.95	0.12
25	02900-00-00-049A2	59.87	41.08	41.08	2.79
26	02900-00-00-035G0	26.01	6.92	0	0
27	02900-00-00-050A0	6.1	4.92	0	0
28	03000-00-00-00200	98.88	95.31	0	72.1
29	03000-00-00-010A1	5.75	5.73	0	5.73
30	03000-00-00-38A0	151.48	70.49	0	1.73
31	03000-00-00-041A0	3.2	5.19	5.03	2.14
32	01700-00-00-035B1	91.02	52	52	10.13
33	01800-00-00-011A0	81.57	20.20	0.00	0
34	01800-00-00-01G0	27.36	9.32	9.32	0
35	01800-00-00-01of1	8.56	2.26	2.26	0
36	01800-00-00-019A3	8.03	5.96	0	0.08
TOTALS		1302	644	197	121

LEGEND

DRY AREA OUTSIDE POTENTIAL RESERVOIR

DRY AREA CONNECTED TO ROAD FRONTAGE

464 CONTOUR - NORMAL POTENTIAL RESERVOIR POOL ELEVATION

474 CONTOUR - FLOOD POTENTIAL RESERVOIR POOL ELEVATION

BUFFER - 300' OFFSET FROM 474 CONTOUR

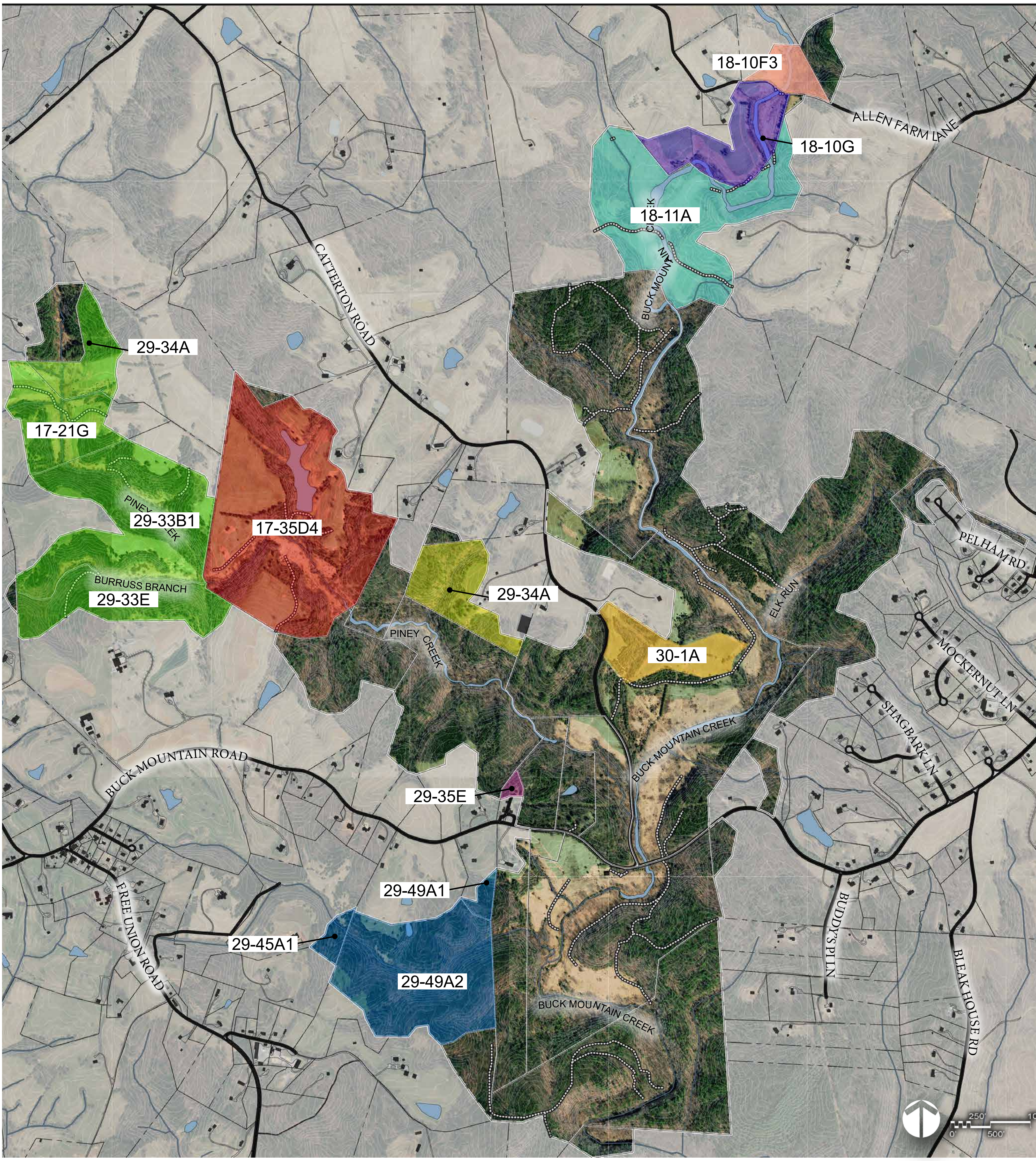
A minimum buffer zone of 300 horizontal feet measured from the normal pool level is required around the potential reservoir. Land uses prohibited within this buffer zone include the following:

- Permanent structural improvements
- Temporary structural Improvements
- New septic fields/systems
- Access
- Wells
- Row crops
- Pasture
- Hayland
- Livestock access
- Feedlots

Land uses limited within this buffer zone include the following:

- Forestry activities
- Use of pesticides, fertilizers and other chemicals

Reservoir design and restrictions per Buck Mountain proposal to Albemarle County Board of Supervisors, August 4, 1982.



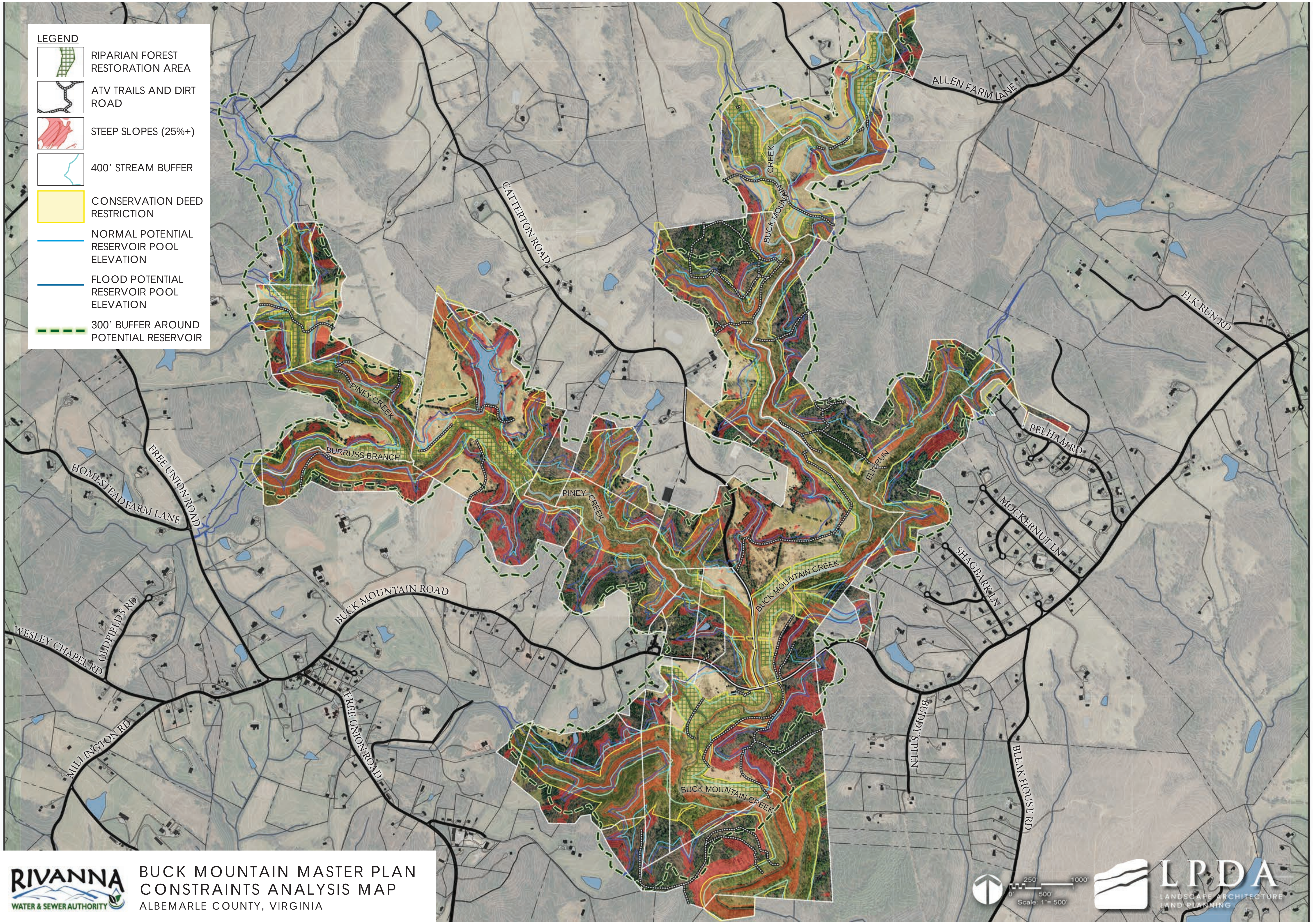
Lessee	Parcel #	Parcel Tax ID	Total Parcel Acreage	Leased Acreage
Robyn North	17-35D4	01700-00-00-35D4	117.95	117.946
Charles Durbin Jr.	29-34A	02900-00-00-034A	25.12	25.12
Phillip and Melissa Johnson	29-33E	02900-00-00-033E0	27.72	27.724
	17-21G	01700-00-00-021G0	24.51	24.507
	17-22D	01700-00-00-022D0	18.186	18.186
	29-33B1	02900-00-00-33B1	66.02	66.016
David and Virginia Ashcom	30-1A	01700-00-00-35D4	159.96	20

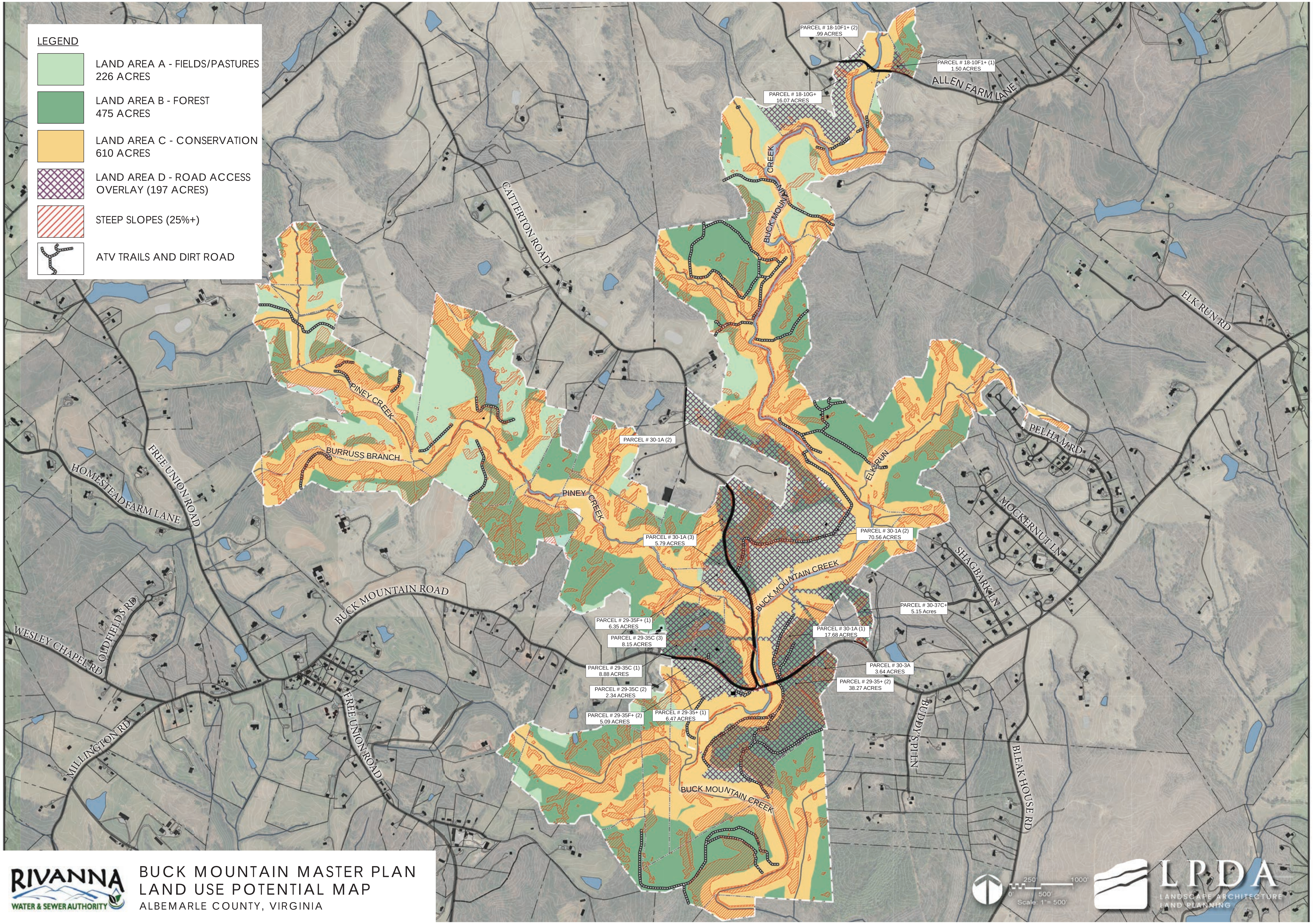
Lessee	Parcel #	Parcel Tax ID	Total Parcel Acreage	Leased Acreage
June E. Mooney, Susan McCarson	18-10G	01800-00-00-1G0	27.36	27.362
Kenneth Wayne McCauley	29-35E	02900-00-00-35E0	1.35	1.348
Lawrence S. Miller and Deborah L. Miller	29-49A2	02900-00-00-049A2	59.87	59.868
	29-45A1	02900-00-00-45A1	2.58	2.581
	29-49A1	02900-00-00-49A1	1.445	1.445
Harry Wellons	18-11A	01800-00-00-011A0	83.75	83.75
Gary Wilson	18-10F3	01800-00-00-01OGO	8.56	8.56

RIVANNA WATER & SEWER AUTHORITY

BUCK MOUNTAIN MASTER PLAN
LEASED PARCELS
ALBEMARLE COUNTY, VIRGINIA

LPDA LANDSCAPE ARCHITECTURE LAND PLANNING


LEGEND
RIPARIAN FOREST RESTORATION AREA
ATV TRAILS AND DIRT ROAD
STEEP SLOPES (25%+)
400' STREAM BUFFER
CONSERVATION DEED RESTRICTION
NORMAL POTENTIAL RESERVOIR POOL ELEVATION
FLOOD POTENTIAL RESERVOIR POOL ELEVATION
300' BUFFER AROUND POTENTIAL RESERVOIR
ALLEN FARM LANE
CATTERTON ROAD
BUCK MOUNTAIN CREEK
ELK RUN RD
PINEY CREEK
BURRUSS BRANCH
PELHAM RD
ELK RUN
MOCKERNUT LN
SHAGBARK LN
HOMESTEAD FARM LANE
FREE UNION ROAD
BUCK MOUNTAIN ROAD
OLDFIELDS RD
WESLEY CHAPEL RD
MILLINGTON RD
BUDDY'S PLN
BLEAK HOUSE RD
BUCK MOUNTAIN CREEK
RIVANNA
WATER & SEWER AUTHORITY
BUCK MOUNTAIN MASTER PLAN
CONSTRAINTS ANALYSIS MAP
ALBEMARLE COUNTY, VIRGINIA
250' 1000'
0 500'
Scale: 1" = 500'
LPDA
LANDSCAPE ARCHITECTURE
LAND PLANNING



RIVANNA WATER & SEWER AUTHORITY

BUCK MOUNTAIN MASTER PLAN
LAND USE POTENTIAL MAP
ALBEMARLE COUNTY, VIRGINIA

APPENDIX B

Buck Mountain Environmental Report

Land Use Report

Buck Mountain Property

Environmental Supplement to Land Use Master Plan

PREPARED FOR

]

Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlottesville, VA 22902

PREPARED BY

351 McLaws Circle
Suite 3
Williamsburg, VA 23185
757-220-0500

May 2020

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Introduction and Regulatory History of Buck Mountain Property

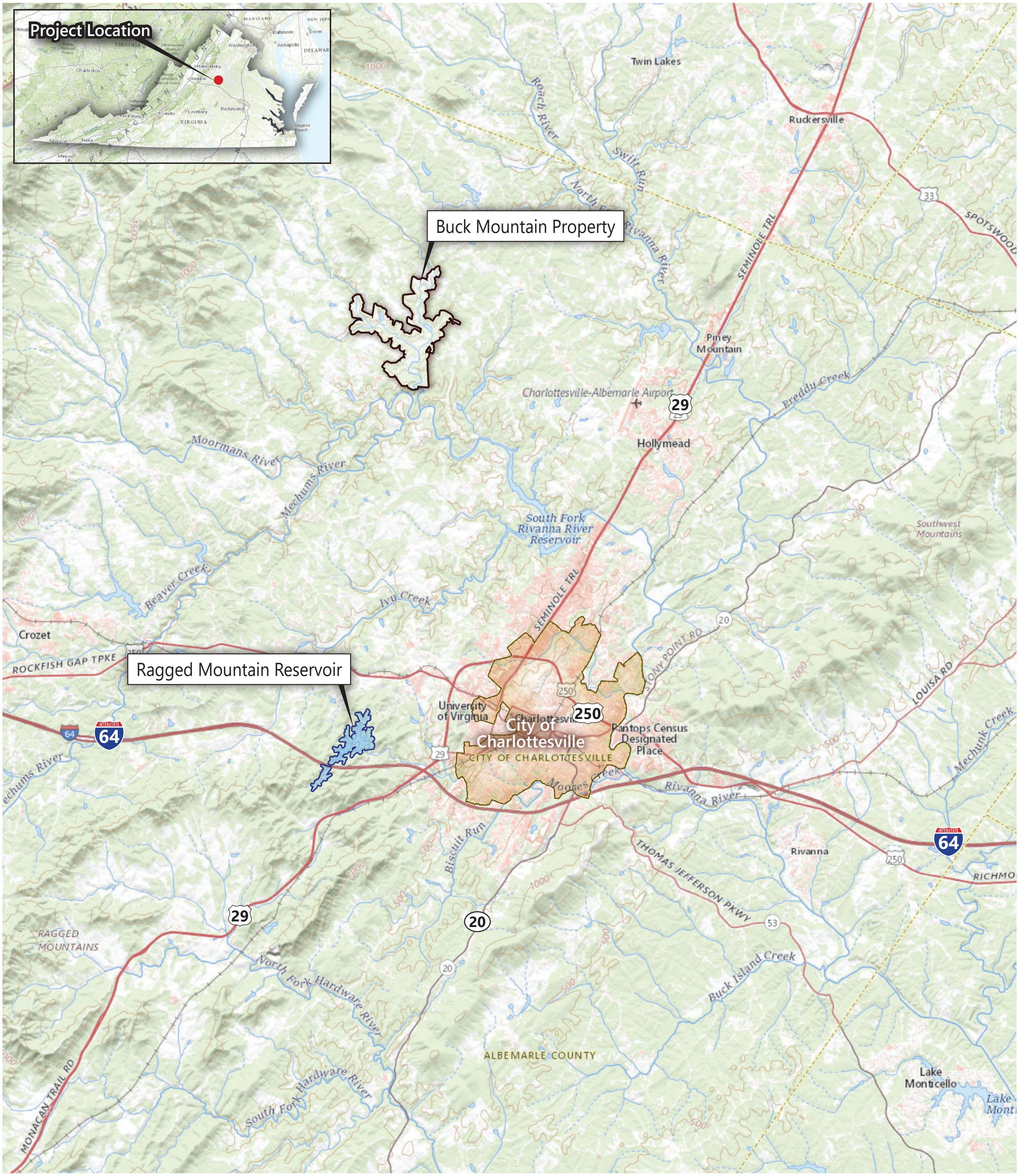
Introduction

The Rivanna Water and Sewer Authority (RWSA) owns a 1,314-acre tract of rural property east of Buck Mountain in the northern part of Albemarle County. The primary uses of the property include conservation to protect water quality and pasture leases to local farmers. RWSA wishes to investigate various land-use options available and how ownership/management of the property fits within their core mission as a water and solid waste service provider. The purpose of this document is to provide supplemental information related to environmental regulatory issues that may affect those land-use options under consideration. The last chapter is a section that provides some addition insight into long-term land management.

Regulatory History

The Buck Mountain property was first considered for a water supply reservoir in the 1970s when property acquisition began. During the final planning stages of the reservoir after property acquisition was accomplished, regulatory constraints resulted in RWSA turning towards an alternative supply of water. The Ragged Mountain Reservoir Expansion Project was developed as a means of meeting the future local water supply needs (Figure 1). In 2008, RWSA obtained regulatory permits to increase water storage at the existing Ragged Mountain Reservoir by increasing the pool level 45 feet. These permits were soon modified to include a 9-mile pipeline connecting the existing South Fork Rivanna Reservoir on the north side of Charlottesville with the Ragged Mountain Reservoir. This pipeline provided RWSA flexibility in moving raw water between water supply reservoirs. The permits for the Ragged Mountain Reservoir and pipeline were issued conditioned upon compensatory mitigation for impacts to 12,392 linear feet of streams and 2.63 acres of wetlands[1]

[1] DEQ VWP Individual Permit No. 06-1574; USACE Permit– NAO 2006-0300206-V1574



RWSA Buck Mountain Land Use Analysis
Albemarle County, Virginia

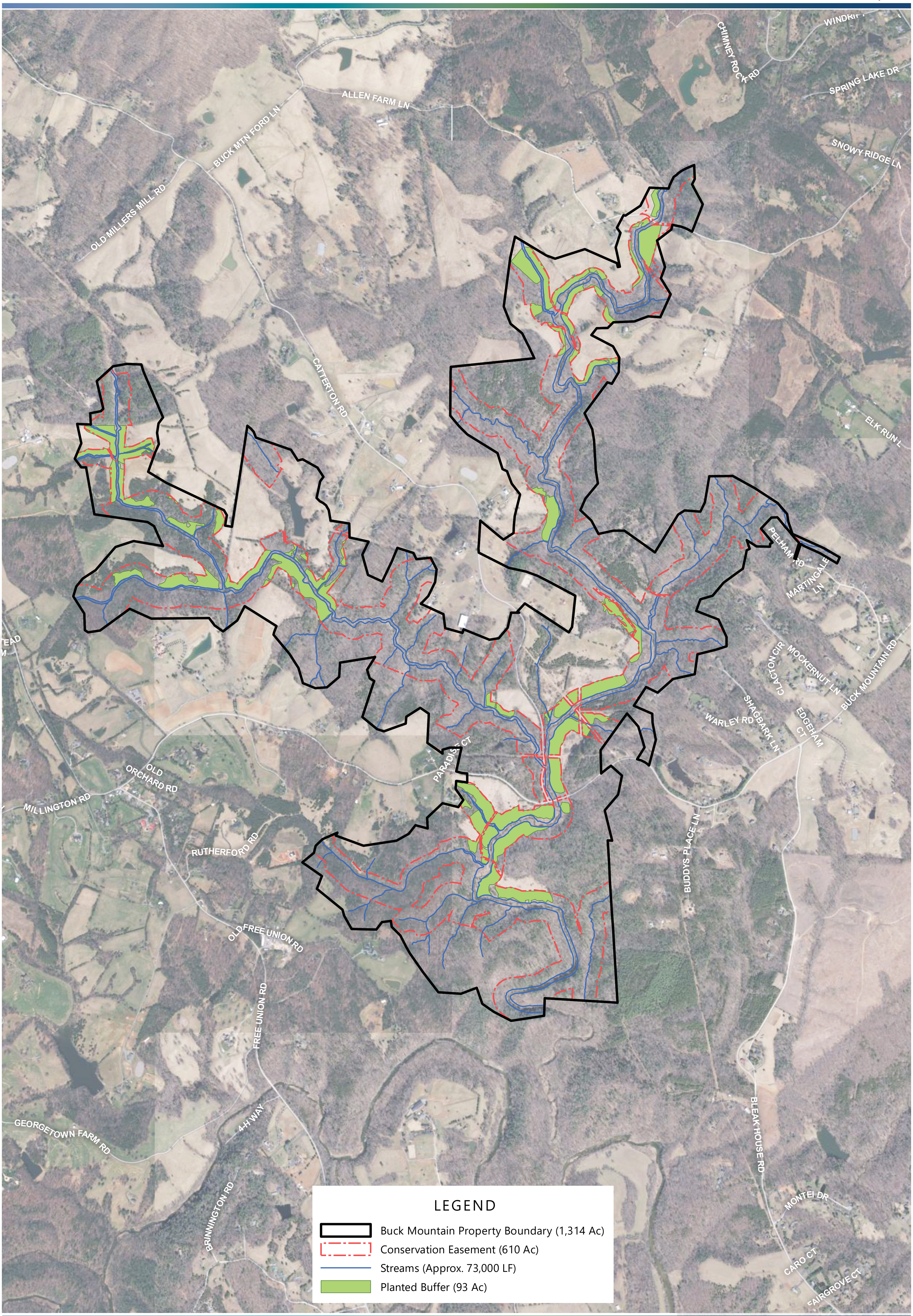
0 SCALE IN MILES 3

Upon evaluating different stream mitigation options costing as much as $6 million, RWSA determined that performing stream mitigation at the Buck Mountain property was the most cost effective approach to satisfy the Ragged Mountain stream mitigation need, while also gaining a beneficial use of the Buck Mountain property since it's use as a future reservoir was no longer considered. A stream restoration and buffer enhancement plan at Buck Mountain was developed, approved by the agencies, and implemented.

Stream channel enhancement included improvements to approximately 570 linear feet of unstable stream bank along Buck Mountain Creek just south of Buck Mountain Road (Route 665). Stream enhancement features were designed to reduce excessive sediment inputs and promote improvements to aquatic habitat quality, particularly for the endangered James spinymussel (*Pleurobema collina*). The design plan was structured to ensure that the stream bank stabilizing measures remain self-sustaining, and a methodology to assess the post-construction efforts was initiated based on detailed field observations and reporting, which will occur over a 10-year period.

Stream buffer enhancement and/or preservation of riparian habitat occurred along approximately 74,000 linear feet of perennial and intermittent streams bisecting the property. This included approximately 93 acres of forested riparian buffer enhancement established at various locations along Buck Mountain Creek, Piney Creek, Burruss Branch, and Elk Run, adjacent to several first and second order tributaries (Figure 2). Work to enhance the buffers included the planting of hardwood species in areas generally void of woody species within the specified conservation easement width (variable by lease), where agriculture and livestock grazing had previously been the primary land uses. In addition, new fencing was installed to exclude cattle from the streamside enhancement buffer.

Preservation of these enhancement areas was achieved throughout the course of the permit approval process, with the land eventually placed in restrictions tied to each constituent's deed and protected in perpetuity. Details of the deed restrictions and the implications to land use are provided later in Chapter 4 of this document.



North

0 SCALE IN FEET 1,500

FIGURE 2

Planted Buffers, Streams and Conservation Area Map

2

Regulatory Setting

Regulatory authority has been given to numerous governmental agencies whose purpose is to oversee land use activities for the protection of water resources, rare animals and plants, and cultural resources of significance. This section is an overview of those agencies and their mandate relative to potential land uses at the Buck Mountain Property.

Jurisdictional Waterbodies, Streams, and Wetlands

Section 404 of the Clean Water Act

Waterbodies, streams, and wetlands that serve to provide surface water connectivity to a navigable waterway are regulated at the federal level by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) (33 CFR 320-332), which provides for the protection of water quality in Waters of the U.S., including wetlands, and instructs the USACE to issue permits for activities that result in the discharge of dredged or fill material into these areas. Under current regulation, non-tidal waters of the U.S. include lakes, ponds, and ephemeral, intermittent, and perennial stream tributaries provided there is the presence of a definitive bed and bank that maintains an observable ordinary high water mark (OHWM). Wetlands as defined by the USACE in 33 CFR 328.3 and by the US Environmental Protection Agency (EPA) in 40 CFR 230.3 are "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils."

Virginia State Water Control Law

Within the State of Virginia, activities conducted in state waters and wetlands are regulated by the Virginia Wetlands Act of 1972 and State Water Control Law enacted in 2001 (§ 62.1-44.2 *et seq*.). The Virginia Department of Environmental Quality (DEQ), through the State Water Control Board, regulates wetlands and water resources in Virginia. Permitting for wetlands and water impacts involves the issuance of permits related to development activities, certain surface water withdrawals, and certain groundwater withdrawals.

With regard to the protection of surface waters, the following activities are regulated and cannot occur without a Virginia Water Protection permit unless otherwise excluded from permitting:

a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;

b. Filling or dumping;

c. Permanent flooding or impounding; or

d. New activities that cause significant alteration or degradation of existing wetland acreage or functions; or alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, animal, or aquatic life, or to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses unless authorized by a certificate issued by the Board.

Water Quality (Section 401)

Under Section 401 of the CWA, a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States unless a state or authorized tribe where the discharge would originate issues a Section 401 water quality certification verifying compliance with existing water quality requirements or waives the certification requirement. Some of the major federal licenses and permits subject to Section 401 include:

- Section 402 and 404 permits (in non-delegated states),
- Federal Energy Regulatory Commission (FERC) hydropower licenses, and
- Rivers and Harbors Act Section 9 and 10 permits.

In Virginia, the DEQ administers the Virginia Water Protection Permit Program which serves as Virginia's Section 401 certification program for federal Section 404 permits issued under the authority of the CWA.

Stream Buffers

Albemarle County zoning ordinance includes protective measures for stream riparian zones above and beyond typical erosion and sedimentation control measures. Applicable to the Buck Mountain property, Chapter 17 of the ordinance states:

> "If the development is located within a water supply protection area or other rural land, stream buffers shall be retained if present and established where they do not exist on any lands subject to this chapter containing perennial or intermittent streams, contiguous nontidal wetlands, and flood plains. The stream buffer shall extend to whichever of the following is wider: (i) one hundred (100) feet on each side of any perennial or intermittent stream and contiguous nontidal wetlands, measured horizontally from the edge of the contiguous nontidal wetlands, or the top of the stream bank if no wetlands exist; or (ii) the limits of the flood plain. The stream buffer

shall be no less than two hundred (200) horizontal feet wide from the flood plain of any public water supply impoundment."

Stormwater Management

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) program to limit pollutant discharges into streams, rivers, and bays. In the Commonwealth of Virginia, the DEQ administers the program as the Virginia Pollutant Discharge Elimination System (VPDES). The DEQ issues VPDES permits for all point source discharges to surface waters, to dischargers of stormwater from Municipal Separate Storm Sewer Systems (MS4s), and to dischargers of stormwater from Industrial Activities. The DEQ also issues Virginia Stormwater Management Program (VSMP) permits to dischargers of stormwater from Construction Activities. The EPA maintains authority to review applications and permits for "major" dischargers, a distinction based on discharge quantity and content.

Currently, three laws apply to land disturbance activity in Virginia: The Stormwater Management Act (Va. Code Ann. § 62.1-44.15:24 *et seq*.), Erosion and Sediment Control Law (Va. Code Ann. § 62.1-44.15:51 *et seq*.), and Chesapeake Bay Preservation Act (Va. Code Ann. § 62.1-44.15:67 *et seq*.). A project conducted on the Buck Mountain site will be required to adhere to the Stormwater Management Act and the Erosion and Sediment Control Law. Albemarle County is not a county required by state statute to implement the Chesapeake Bay Preservation Act, although the county enacted their own streamside riparian protection ordinance.

Below is the list of water quality compliances that would be anticipated to be required for a project at Buck Mountain:

- If the proposed activity will disturb more than 1 acre of the project area, compliance with VSMP and a Stormwater Pollution Prevention Plan (SWPPP) will be required for this project;
- A land disturbance permit may be required from Albemarle County;
- Erosion and Sediment Control Plan may be required from Albemarle County;
- A stormwater management plan submitted to Albemarle County would be required to document compliance with water quality and quantity control in accordance with new VDEQ Stormwater Regulations Runoff Reduction Method; and
- Letter of Map Amendment & Letter of Map Revision based on fill within the 100-year floodzone may be required for any construction activities within FEMA floodzone in accordance with National Flood Insurance Program (NFIP) regulations.

Virginia Marine Resources Commission

The Virginia Marine Resources Commission (VMRC), as provided in Chapter 12 of Title 28.2 of the Code of Virginia, is the State agency responsible for issuing permits for encroachments in, on, or over State-owned submerged lands throughout the Commonwealth. Virginia is one of six "low water states" and, as such, maintains ownership of all submerged lands channelward of the mean low water mark in tidal waters and channelward of the ordinary high water mark on naturally occurring non-tidal perennial streams, creeks, and rivers having a drainage area greater than 5 square miles.

Protected Species

The federal Endangered Species Act of 1973 (ESA) protects animal and plant species on the verge of extinction. An endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." The ESA also defines a threatened species as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The current list of federally protected wildlife is provided within the 50 CFR part 17.11 *Endangered and Threatened Wildlife*, amended January 2, 2020. The current list of federally protected plants is provided within 50 CFR part 17.12 *Endangered and Threatened Plants*, amended October 1, 2019. Protection is also provided to bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) under the Bald and Golden Eagle Protection Act of 1940 (BGEPA) (16 USC 668-668C). The ESA provides regulatory authority to the US Fish and Wildlife Service (USFWS) for the administration of the ESA over terrestrial and freshwater aquatic plants and animals and to the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) for the administration of the ESA over marine and anadromous species.

The Virginia Endangered Species Act (Va. Code Ann. § 29.1-564 *et seq*.), passed in 1979, protects state-listed wildlife species. This act assigns the regulatory responsibility for listing and protecting endangered and threatened wildlife in Virginia to the Virginia Department of Game and Inland Fisheries (VDGIF). Virginia prohibits the "taking, transportation, possession, sale, or offer for sale within the Commonwealth of any fish or wildlife" appearing on the federal list of threatened or endangered species. In addition, the State Board of Game and Inland Fisheries may issue a regulation declaring that species not appearing on the federal list are threatened or endangered in Virginia, and may also issue regulations prohibiting their taking, transportation, processing, or sale (Va. Code Ann. § 29.1-566). Exceptions to the taking, possession, and transportation prohibitions may be made for "zoological, educational, or scientific purposes and for propagation of such fish or wildlife in captivity for preservation purposes." (Va. Code Ann. § 29.1-568).

The Virginia Endangered Plant and Insect Act (Va. Code Ann. § 3.1-1020-1030) protects state listed plant species. The act assigns the regulatory responsibility of the listing and protection of endangered and threatened plants to the Virginia Department of Agriculture and Consumer Services (VDACS) Office of Plant Protection. Under this law, the state board is authorized to issue regulations listing plant or insect species as threatened or endangered and restricting actions with respect to these species (Va. Code Ann. § 3.2-1002(A)). Individuals may not "dig, take, cut, process, or otherwise collect, remove, transport, possess, sell, offer for sale, or give away" plant or insect species listed by law or regulation as threatened or endangered, except on their own land (Va. Code Ann. § 3.2-1003). The law provides an exception for permits issued by the Commissioner in limited circumstances (Va. Code Ann. § 3.2-1004). The Commissioner may undertake programs necessary for the management of threatened or endangered plant or insect species (Va. Code Ann. § 3.2-1001).

Forest Management

Forest management activities in Virginia are not highly regulated, and forest owners are relatively free to implement silvicultural practices they deem to be in their best interest. However, Virginia law generally has three main provisions placed upon a landowner.

1. Landowners are required to notify the Virginia Department of Forestry (VDOF) prior to the start of a silvicultural operation.
2. A landowner is required to provide assurances that forest regeneration is planned to replace cutover lands.
3. A silvicultural operation must comply with forestry best management practices protecting water quality.[2] Virginia law provides VDOF the authority to protect streams from excessive sedimentation originating from forestry operations by instituting Special Orders or Emergency Special Orders requiring corrective measures with the possibility of civil penalties.

[2] Virginia's Forestry Best Management Practices for Water Quality Technical Manual, 2011

3

Site Description

The Buck Mountain property lies in the Piedmont geologic province where the rural landscape is generally a patchwork of single-family woodlots, farms, and pastures. Elevations range from approximately 410 feet above mean sea level at the southern end of the property associated with Buck Mountain Creek near the confluence with the South Fork Rivanna River to around 500 feet at the northern end. The confluence of Buck Mountain Creek and South Fork Rivanna River is situated approximately 4.75 meandering miles upstream from the South Fork Rivanna Reservoir, another drinking water supply reservoir managed by RWSA. According to the Soil Survey of Albemarle County from 1985, the property is part of colluvial terraces formed at the foothills of the Blue Ridge geologic province carved by numerous streams, Buck Mountain Creek being the predominate stream channel on the property. General soil types include the Braddock, Thurmont, and Unison soil mapping units. These soils are deep, well drained with clayey or loamy subsoils.

Vegetation

Within the study area, numerous natural, disturbed, and anthropogenic vegetation communities and habitat types were identified. Approximately 61 % of the property is forested with mature trees, 17 % comprises young forest stands regenerating within old pastures, and 16 % of the property is fallow fields, pastures, and lawns. The identified communities are delineated in Figure 3 and the acreages for each community/habitat are provided in Table 1, below.

Table 1: Acreages for Vegetation Communities and Habitats Identified within the Buck Mountain Study Area

Vegetation Community/Habitat		Acres (ac.)	Percentage
Eastern White Pine-Hardwood Forest	Natural	15.1	1.15
Mountain/Piedmont Basic Woodland	Natural	30.2	2.30
Mountain/Piedmont Acidic Woodland	Natural	16.8	1.27
Montane Mixed Oak and Oak-Hickory Forest	Natural	200.2	15.22
Pine-Oak/Heath Woodland	Natural	374.6	28.49

Vegetation Community/Habitat		Acres (ac.)	Percentage
Piedmont Mountain Small Stream Alluvial Forest	Natural	162.9	12.39
Open Water	Natural	4.6	0.35
Stream Channels/Corridors	Natural	56.3	4.28
Successional Mixed Conifer	Modified	70.5	5.36
Successional Mixed Hardwood	Modified	136.6	10.39
Successional Shrubland	Modified	10.7	0.81
Fallow Pasture	Modified	30.0	2.28
Maintained Pasture	Modified	161.6	12.29
Maintained Lawns	Modified	17.8	1.36
Paved Roads	Anthropogenic	6.2	0.47
All-Terrain Vehicle Trails	Anthropogenic	12.3	0.93
Fords/Crossing	Anthropogenic	0.3	0.03
Utility Corridors	Anthropogenic	8.2	0.63
Total		**1,314.7**	**100.00**

Eastern White Pine Hardwood Forest

Onsite communities defined as eastern white pine hardwood forests totals approximately 15.1 acres in size. These communities are dominated by mature white pine (*Pinus strobus*), with other pine species, such as Virginia pine (*Pinus virginiana*) and shortleaf pine (*Pinus echinata*), and mixed hardwood species, such as white oak (*Quercus alba*) and northern red oak (*Quercus rubra*), which comprise a much smaller proportion of the overstory. Trees in these areas are generally mature, with trunks ranging from 15 to 20 inches in diameter at breast height (DBH). This community type occurs at the northwesternmost tip of the Piney Creek section of the property.

Mountain/Piedmont Basic Woodland

Mountain/piedmont basic woodland communities comprise approximately 30.2 acres located adjacent to Piney Branch and Burruss Run. These upland areas are dominated by eastern red cedar (*Juniperus virginiana*) and Virginia pine with a co-dominance of hardwoods. This community occurs at the tops of ridges and along many side slopes. Relatively young trees with trunks ranging from 3 to 10 inches in DBH populated most of these areas.

Mountain/Piedmont Acidic Woodland

Mountain/piedmont acidic woodland communities occur in relatively low abundance totaling 16.8 acres at the southern end of the property. Dominant species include pines, including pitch pine and Virginia pine with some shortleaf pine, and a smaller proportion of white oak, northern red oak, and chestnut oak (*Quercus montana*). Most of these areas consisted of stands with smaller, less mature trees ranging from 3 to 6 inches DBH.

Montane Mixed Oak and Oak Hickory Forest

The montane mixed oak and oak hickory forest varies across the site but are most consistent with the "drier type" for this vegetation community. This community exhibits a high occurrence of chestnut oak throughout with northern red oak, white oak, red hickory (*Carya ovalis*), and shagbark hickory (*Carya ovata*). In general, oaks comprised a larger proportion of the overstory than hickories. This community can be found across much of the ridge slopes covering approximately 200.2 acres most of which are found south of Piney Creek and Burruss Run. Trees varied in stem sizes from 5 to 24 inches in DBH, with most between 10 and 20 inches.

Pine-Oak/Heath Woodland

Onsite communities identified as pine oak/heath woodland exhibit wide distribution across the study area and comprised a total of approximately 374.6 acres. A large portion of the acreage occurs south of Buck Mountain Road, with other areas occurring adjacent to Piney Creek and Elk Run. The overstory consisted primarily of pitch pine, Virginia pine, chestnut oak, northern red oak, and white oak. Understory species included sassafras (*Sassafras albidum*), mountain-laurel (*Kalmia latifolia*), and black huckleberry (*Gaylussacia baccata*). Fire generally influences the species composition, cover, and distribution within this community; however, onsite habitats did not exhibit signs of burning indicating recent fire suppression. A higher than typical abundance of hardwood species also suggests that natural wildfire has been suppressed within the study area. Most observed areas consist of mature trees with trunks ranging from 5 to 15 inches in DBH.

Piedmont/Mountain Small-Stream Alluvial Forest

Piedmont/mountain small-stream alluvial forest occurs frequently within the study area covering approximately 162.9 acres in the lower elevations associated with Buck Mountain Creek, Elk Run, and Piney Creek. Trees within this community include American sycamore (*Platanus occidentalis*), red maple (*Acer rubrum*), hackberry (*Celtis occidentalis*), sweetgum (*Liquidambar styraciflua*), silver maple (*Acer saccharinum*), ironwood (*Carpinus caroliniana*), and spicebush (*Lindera benzoin*) generally ranging between 5 to 15 inches in DBH with robust understories dominated by invasive and non-native species including Chinese privet (*Ligustrum sinense*) and multiflora rose (*Rosa multiflora*). Most of these areas are located within the deed restricted buffers.

Stream Channel and Open Water

Stream systems present onsite included Buck Mountain Creek, Piney Creek, Burruss Run, and Elk Run, and numerous unnamed tributaries to the named systems. The stream habitat consisted of defined and identifiable perennial, intermittent, and ephemeral stream channels with bed and bank definition and exhibiting an ordinary high water mark. Stream channels total approximately 73,876 LF and 56.3 acres. Open water communities onsite consist of two impoundments likely used as livestock and/or agricultural water supplies. Both ponds drain to Piney Creek. Stream channel and open water communities total approximately 4.6 acres in size.

Successional Mixed Conifer

Successional mixed conifer communities include scattered fallow farm fields and other previously cleared land that have been reclaimed by a dominance of young coniferous species. Virginia pine, shortleaf pine, pitch pine, and red cedar dominated this community. Successional mixed conifer covered approximately 70.48 acres and occur primarily along the Buck Mountain Creek drainageway.

Successional Mixed Hardwood

These communities include areas of fallow farm fields and other previously cleared land that have been reclaimed by a dominance of young hardwood species to include the planted buffer areas. A total of approximately 136.6 acres of the study area is comprised of this community. Hardwood species in this community type include white oak, red maple, sugar maple (*Acer saccharum*), black cherry (*Prunus serotina*), and various hickories (*Carya* spp.). Non-native and invasive species such as princess tree (*Paulownia tomentosa*) and tree-of-heaven (*Ailanthus altissima*) also comprise a significant proportion of the community.

Successional Shrubland

This community consists of fallow farm fields and other previously cleared land that have been reclaimed by a dominance of shrub species, predominately non-native, invasive species such as tree of heaven, multiflora rose, and autumn olive (*Elaeagnus umbellata*). Native shrub species present within this community type included common witch-hazel (*Hamamelis virginiana*), black locust (*Robinia pseudoacacia*), and hawthorn (*Crataegus* spp.). This community covers a total of approximately 10.7 acres of the study area. One area occurs south of Buck Mountain Road and the other areas are found along the Piney Creek drainageway.

Fallow Pasture

A total of approximately 30.0 acres of pasture that is not actively utilized by livestock was identified within the study area. Fescue (*Lolium arundinaceum*) and early successional shrubs such as Chinese privet dominated this community. These areas occur north of Buck Mountain Road along the Buck Mountain Creek drainageway.

Maintained Pasture

This community included livestock pasture that was actively maintained for grazing. These areas were fenced along the boundaries to retain cattle or other livestock from entering deed-restricted buffer areas. Active, maintained livestock pasture accounted for a total of approximately 161.6 acres of the study area.

Maintained Lawn

Maintained lawns include grassed areas regularly mowed for aesthetics/yards. These areas consist of fescue and other lawn grasses as well as typical lawn weeds. This community type comprises approximately 17.8 acres of the study area and occurs adjacent to the farm pond north of Piney Creek.

Paved Roads

While not technically part of the RWSA ownership, paved roadways are included in the general, overall perspective of the property as an important component to land access. Public roadways comprise a total of approximately 6.2 acres of the land shown in Figure 3 associated with Buck Mountain Road.

All-Terrain Vehicle Trails

All-terrain vehicle (ATV) trails occur throughout the property typically associated with farming/livestock operations. These trails are distinguished separately from improved dirt roads but could be used by standard four-wheel drive vehicles in most areas under dry conditions. These trails totaling over 8 miles comprise a total of approximately 12.3 acres of land area.

Fords/Crossings

Fords and stream crossings consisted of shallow waterway crossings maintained for use by vehicles, ATVs and/or livestock. The conditions of these crossings vary substantially across the study area, with several having been unmaintained and washed away. These areas totaled approximately 0.3 acres.

Utility Corridors

Utility rights-of-way corridors are found primarily just north of Buck Mountain Road totaling approximately 8.2 acres. Vegetation within these areas vary greatly depending on the degree of maintenance. These occur just north of Buck Mountain Road.

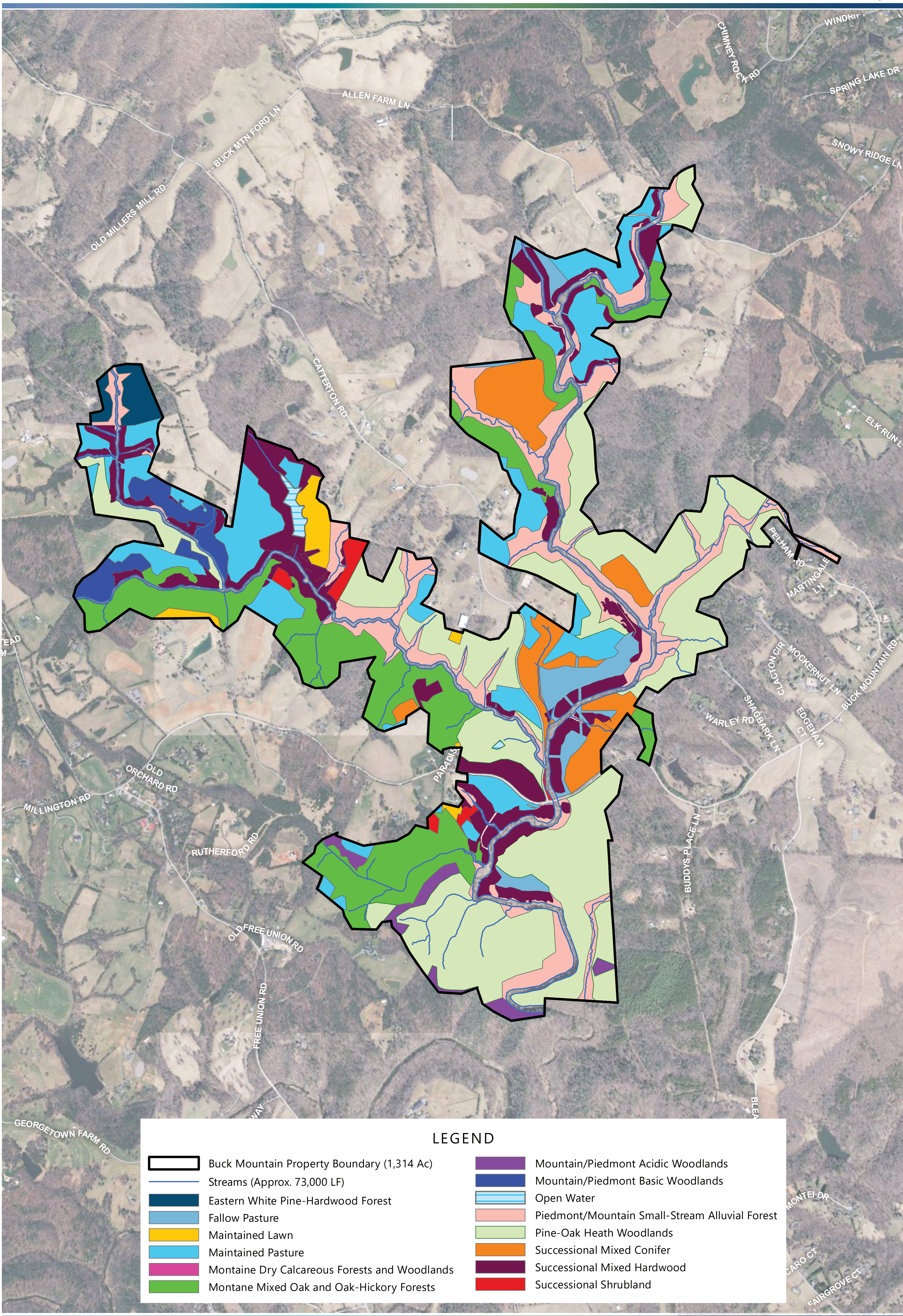


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FIGURE 3

Vegetation Communities

Threatened and Endangered Species

Searches using the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system, the Virginia Natural Heritage Resources Data search of the Virginia Department of Conservation and Recreation (DCR), and the Virginia Fish and Wildlife Information Service (VaFWIS) of the Virginia Department of Game and Inland Fisheries (DGIF), were used to determine the potential presence of threatened or endangered species with the study area. The results of these database searches are provided in Appendix A, and they indicate the James spinymussel (*Pleurobema collina*), federally and state endangered, and the northern long-eared bat (NLEB) (*Myotis septentrionalis*), federally and state threatened, may be present onsite.

The James spinymussel is a freshwater mussel identified by a shiny yellow shell with or without one to three short spines. Like other mussels, it is a filter feeder. This species inhabits a variety of silt-free substrates within free-flowing streams with a range of flow regiments. It primarily occurs in small headwater tributaries within the James and Dan river basins. Surveys have indicated it is present in West Virginia, Virginia, and North Carolina.

Onsite, it is indicated as potentially present within Buck Mountain Creek and Piney Creek. This species was confirmed present by Virginia Department of Game and Inland Fisheries biologists at the Buck Mountain Road stream crossing. No further formal surveys for the species have been conducted within the study area. The James spinymussel is considered a short-term brooder, and DGIF recommends a time of year restriction of May 15 through July 31 for in stream work.

NLEBs spend winter hibernating in various sized caves and mines with constant temperatures, high humidity, and no air currents. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live trees and snags. During the summer they can be impacted by activities that involved tree removal. In order to avoid impacts to NLEBs, USFWS and DGIF recommend restrictions prohibiting tree removal within 150 feet of a documented maternity roost from June 1 through July 31 and prohibiting tree removal within 0.25 miles of a documented hibernaculum. The current VDGIF records indicate no known maternity sites or hibernacula in the vicinity of the Buck Mountain property.

The Center for Conservation Biology Bald Eagle Mapper was searched for bald eagle nests near the study area. The mapper identified no eagle nest within or adjacent to the study area.

Cultural Resources

A Virginia Cultural Resources Information System (VCRIS) of the Virginia Department of Historical Resources (DHR) search was completed to determine the potential presence of historical or archeological resources within the study area. The results of the search indicated there were two documented historical resources present within the study area boundaries, the Elliot House (#002-0343) and the Catterton Farm (#002-0368). According to DHR records, the Elliot House is a two-story wooded home built in the late 19th century with multiple additions dated around 1905. A drilled well exists approximately 70 to 80 feet deep, and there are no other structures. While the age of the house dictates it to be viewed as historic (older than 50 years), the structure is not historically significant. The Catterton Farm main structure was recorded in the archives but is no longer present on the property. It is believed to have been relocated offsite. The VCRIS reports and Figure 6 mapping showing the location of these resources are included in Appendix B.

With the understanding the RWSA owns the Elliot House, no law prohibits its removal unless RWSA is involved with a project requiring state or federal action, such as a wetland permit. Under state and federal rules, the agency issuing the permit would be required to coordinate with DHR under Section 106 of the Historic Preservation Act. If no agency action is required, it would be advisable that RWSA coordinate with DHR to allow DHR to gather additional data on the house before it is removed. VHB suggests RWSA consult with a professional archaeologist on any project affecting a historic resource.

4

Land Use Discussion and Regulatory Constraints

The Buck Mountain property was chosen as the source of stream mitigation for the Ragged Mountain project that included deed restrictions covering 610 acres of stream riparian areas. All other land comprising 704 acres do not have land-use restrictions related to the Ragged Mountain Reservoir mitigation (Figure 4). This important distinction is discussed in this section in the context of land-use implications for both restricted and non-restricted areas.

Deed Restricted Area

During the wetland permit application review process, the regulatory agencies approved protection of streamside riparian buffers for RWSA as a necessary component for the Ragged Mountain stream impacts. The protection measures are legally secured via a deed restriction covering the stream buffers that extend approximately 100 to 200 feet from the streams at Buck Mountain (referred to as "Preservation Area").

The restrictions include:

1. Destruction or alteration of waters of the United States, waters of the State, natural vegetation, or natural contours of the land;
2. Construction, maintenance or placement of any structures or fills including, but not limited to, buildings mobile homes, fences, signs, other than those which currently exist;
3. Ditching, land clearing or discharge of dredged or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials;
4. Permitting livestock to graze, inhabit or otherwise enter the Preservation Area;

5. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides.

Those activities that are not restricted include:

- Activities which are reasonably necessary to the establishment, planting, preservation, maintenance and monitoring of the vegetated buffer and maintenance of the Preservation Area, including instream structures and improvements for site access. Should disturbances to trees/vegetation occur due to these activities, the area will be restored as per the mitigation plan;
- Construction, placement, and maintenance of boardwalks, wildlife management structures, observation decks, informative signs, livestock crossings, equipment fords, utilities, or unpaved foot, bicycle or equestrian trails, provided that any such structures permit the natural movement of water and preserve the natural contours of the ground and are approved in writing by the Corps and the DEQ.

The deed allows for amendments under the following conditions.

> The covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner, or its successor in interest, and the Corps and the DEQ. The Owner or its successor may apply to the Corps and DEQ for vacation or modification of this Declaration, however, after their recording, these restrictive covenants may only be amended or vacated by a recorded document signed by the Corps and DEQ and the Owner and its successor in interest.

Very few structural improvements are present within the Preservation Area that would qualify for continued maintenance under part 2 above. Other than unimproved roads and pasture fences, the rural landscape, terrain, and remoteness of the land render it an unfavorable location for most forms of structures to include residential homes, barns, and sheds. Because the deed restriction eliminates forestry and agriculture (logging, plowing, and livestock grazing), use of the Preservation Area becomes limited to passive recreational uses such as bike, pedestrian, and equestrian trails.

Non-Restricted Areas

For those areas not under the deed restriction, typical development activities common to the area such as single-family residential, agriculture, wineries, equestrian centers and the ilk would have very few regulated environmental restrictions, particularly since no streams fall within the non-restricted areas that could otherwise trigger some form of wetland/waters permitting or trigger endangered species impact concerns. These forms of land uses if proposed would involve typical plan review at the local level to insure compliance with county zoning, stormwater regulations, and other local regulations affecting building setbacks, etc.

Silviculture

Forest management practices would be a permissible activity outside of the Preservation Area in accordance with county zoning. Approximately 475 acres of forested lands occur outside of the restricted riparian areas. RWSA may wish to prepare a forest management plan for review by the Virginia Department of Forestry (VDOF) to ensure compliance with Virginia's Forestry Best Management Practices for Water Quality (2011). Such a plan would state forestry management objectives, identify sensitive natural areas, and provide specific plans for forest roads, timber harvesting, reforestation, and forest protection measures.

Additionally, loggers will require road access that provides a stable surface for trucks loaded with logs. The Buck Mountain Property contains very few such roads, which would require that a logger build new roads to access timber. Interpretation of the deed restriction would prohibit the construction of new roads crossing the stream bottoms, which would force loggers to access some tracts through neighboring parcels. It is unclear from the deed restriction language whether an existing ATV trail and stream ford could be improved to handle haul trucks. This would be a question RWSA would need bring to the USACE and Virginia DEQ since it technically requires fill material (gravel) and changes to grades to make the ATV trails passable by trucks.

Some portions of the non-restricted forested areas occur on steep slopes. While there are no regulatory prohibitions governing the harvest of trees on steep slopes, a logging operation would nevertheless be required to abide by forestry best management practices for water quality. RWSA could require a logger to skid trees to a loading deck using cables rather than traditional skidders. Cable logging is a softer, less impacting approach to removing trees than large rubber-tired skidders.

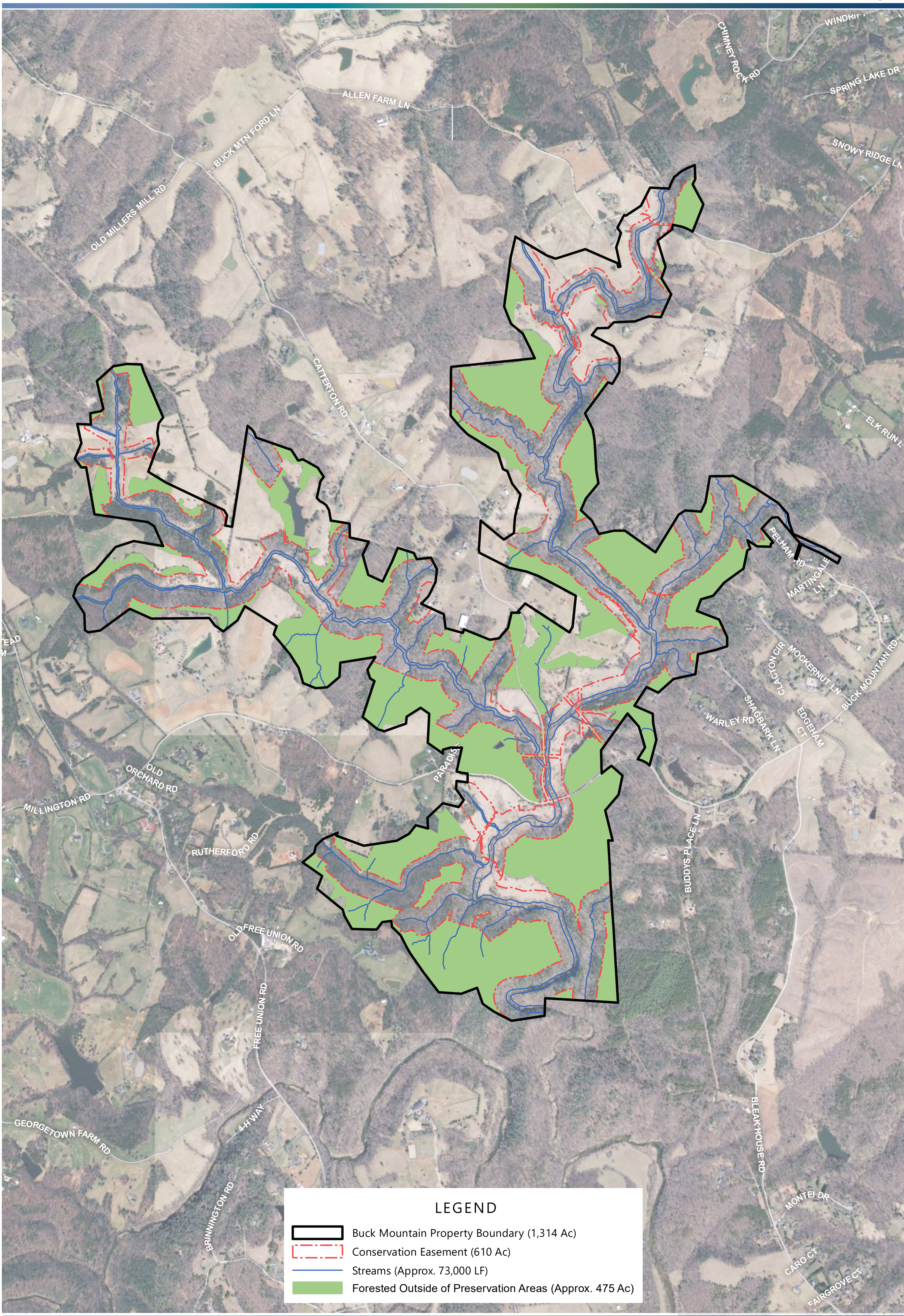

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FIGURE 4
Forested Areas Outside of Conservation Areas

Potential Future Reservoir

One particular question drawing attention is whether the Buck Mountain property can ever be used for a future drinking water supply reservoir. This section addresses this question in the context of the wetland/stream permitting process, notwithstanding Virginia dam safety requirements.

While the notion of a future reservoir is not completely beyond the realm of possibility, overcoming the environmental constraints and bearing the costs necessary to secure regulatory permits would be very difficult. First, the Buck Mountain property is inexorably connected to the regulatory decision-making that justified issuance of Individual Permits for the Ragged Mountain Reservoir improvements. For there to be a new reservoir at Buck Mountain, this connection would need to be severed, thereby re-opening regulatory oversight of the Ragged Mountain Reservoir to satisfy the stream mitigation necessary to compensate for the 12,392 linear feet of stream impacts. RWSA would need to re-establish a new stream mitigation plan for Ragged Mountain for agency approval and seek a modification to the original permit. This would not be done until such time that the agencies would approve the use of Buck Mountain for a reservoir and only then would they sign documents to vacate the deed restrictions.

The work necessary to permit Buck Mountain for a new reservoir would include two layers of environmental review: 1) preparation of a National Environmental Policy Act (NEPA) document; and 2) the submittal of a Joint Permit Application (JPA). These steps are described more fully below.

- The project would trigger a federal action [i.e., issuance of a permit by the U.S. Army Corps of Engineers (USACE)] that would require NEPA compliance. In all likelihood, the USACE would determine that a new reservoir of this magnitude would require an Environmental Impact Statement (EIS), the most comprehensive form of NEPA review, because of the high amount of stream impacts, the presence of a federally endangered species, and the significance of the project on a regional level. An EIS is a planning document that the USACE, as the lead federal agency, would place the burden of preparing on RWSA similar to what occurred to Newport News Waterworks in their efforts to permit the King William Reservoir about 20 years ago. The EIS process, likely lasting longer than two years, would address these topics.
    - Purpose and Need – This section would be dedicated to providing sufficient documentation justifying the need for a new water source. The needs analysis would include a determination of consumer use and water volume requirements projected into the future. The purpose of the project (supply volume and reservoir size) would be tied to the needs assessment.
    - Alternatives Analysis – This section of the EIS would identify and thoroughly describe all possible alternatives that would satisfy the project need to include one or a combination of surface water withdrawal, groundwater withdrawal, and/or reservoir storage. The alternatives analysis would be structured around satisfying federal and state rules requiring that RWSA avoid and minimize environmental impacts by selecting the least damaging,

practical alternative (referred to as LEDPA). RWSA would be required to demonstrate to the agencies' satisfaction that a Buck Mountain reservoir would be the LEDPA as the preferred alternative. The results of this analysis at the conclusion of the EIS process would be eventually carried over to the state and federal permitting process to impact the streams and ponds on the property (discussed below).

- Affected Environment – This section of the EIS would summarize the existing conditions of the site relative to:
  - Wetlands and Streams
  - Fish and Wildlife
  - Vegetation
  - Special Status (Listed) Species
  - Floodplain Values and Flood Hazards
  - Water Supply and Conservation
  - Water Quality
  - Cultural Resources
  - Land Uses and Adjacent Landowners
  - Public Health and Safety
  - Socioeconomic
  - Environmental Justice
- Environmental Consequences – This section would evaluate the primary, secondary, and cumulative impacts for each of the impact topics listed in the Affected Environment section as a result of constructing a new reservoir, as well as all mitigative measures to reduce and offset impacts. Because of the presence of the endangered James spinymussel, the USACE would initiate formal consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act. This would require a survey in the channels to determine the relative abundance of individual mussels. Using this information, a Biological Assessment (BA) would be prepared by RWSA that describes the project, the physical attributes of the project area, and how the action may affect the listed species. The second step would involve a review of the BA by the USFWS to render a Biological Opinion (BiOp) summarizing impacts, assessing mitigative measures, and determining whether the project would jeopardize the continued existence of the species.
- Completion of the Administrative Record and Signing the Record of Decision (ROD) - Once the draft EIS is prepared, it would be made available for public review and comment. RWSA would gather, review, and process all comments (both agency and general public comments), and incorporate any comments/edits into the draft EIS to create a final document for USACE signature via a Record of Decision (ROD).

Once the EIS process is completed, RWSA would prepare a Joint Permit Application (JPA) to receive permits to construct the reservoir. Permits would be required from the USACE and Virginia Department of Environmental Quality (VDEQ) for impacts to area stream channels and wetlands. The Virginia Marine Resources Commission (VMRC) would also require a permit for construction of the dam and impacts to state bottomlands (defined as any channel having a drainage basin greater than 3,200 acres). A new Buck Mountain reservoir would also require an incidental "take" permit from the USFWS for impacts to the James spinymussel. The BA and BiOp process described above would address the incidental taking. USFWS could possibly require the capture and relocation of James spinymussel individuals to other suitable habitats as a mitigative measure.

The last component of the permitting process is compensatory mitigation. Impacts to streams would approximate 73,876 linear feet of high-quality channels, each of which would need to be evaluated using the Unified Stream Methodology (USM) scoring system to determine the mitigation requirement. Assuming an average mitigation ratio of 1.3 linear feet of stream mitigation per 1.0 linear foot of stream impact, the mitigation requirement would approximate 96,038 stream mitigation credits. This would be added to the approximate 17,000 linear feet of stream credits necessary to replace the stream impacts at the Ragged Mountain Reservoir for a total of 113,038 credits, equivalent to 21.4 miles of stream restoration. Currently, the cost of stream mitigation at a private bank or the Virginia Aquatic Trust Fund (an in-lieu fee mitigation program) runs around $400 to $450 per credit. Using the lower cost estimate, the RWSA would need to budget approximately $45.2 million to pay the stream mitigation cost for a Buck Mountain Reservoir.

Potential Mitigation Bank

Another land use that has been discussed is a mitigation bank. There are generally two types of mitigation banks: wetland/stream banks and stormwater nutrient banks. A mitigation bank is a property set aside for either the design and restoration of wetlands/streams or stormwater management features that remove stormwater nutrients/sediments. The regulatory agencies would oversee the creation of a new mitigation bank, they would decide how may acres or linear feet of wetlands/streams are restored or how many pounds of nutrient removal could be achieved, and they would determine how many credits that bank could sell. The banker then would receive a permit to begin selling those credits in an open market to individuals who need mitigation credits for their own project impacts (developers, DOT, etc). A bank performing wetland/stream restoration to create wetland/stream credits cannot also claim nutrient/sediment credits from the wetland/stream restoration and sell nutrient credits, and vice versa.

Conditions at the Buck Mountain property were evaluated for the potential use as either a wetland/stream mitigation bank or a stormwater nutrient bank. First, we will discuss the topic of stream/wetland bank. The property contains over 13,000 LF of streams that are already being preserved as mitigation for the Ragged Mountain property. The residual land outside of the restricted area contains gently to steep sloping uplands having no opportunities for wetland creation or stream restoration that would provide significant numbers of credits worthy of the effort and cost to create a mitigation bank.

A nutrient bank is one that treats runoff from impervious surfaces and/or plowed agricultural fields within a watershed using stormwater designed BMPs and conversion to forests to lower the nutrient load of the discharging water. The Virginia DEQ has established nutrient removal rates for various land-uses based landscape conditions (soil type, vegetation density, slope, etc.). The amount of nutrient removal is typically measured using the elements nitrogen and phosphorus. Below is a table showing general phosphorus removal rates in pounds per acre per year for different actions.

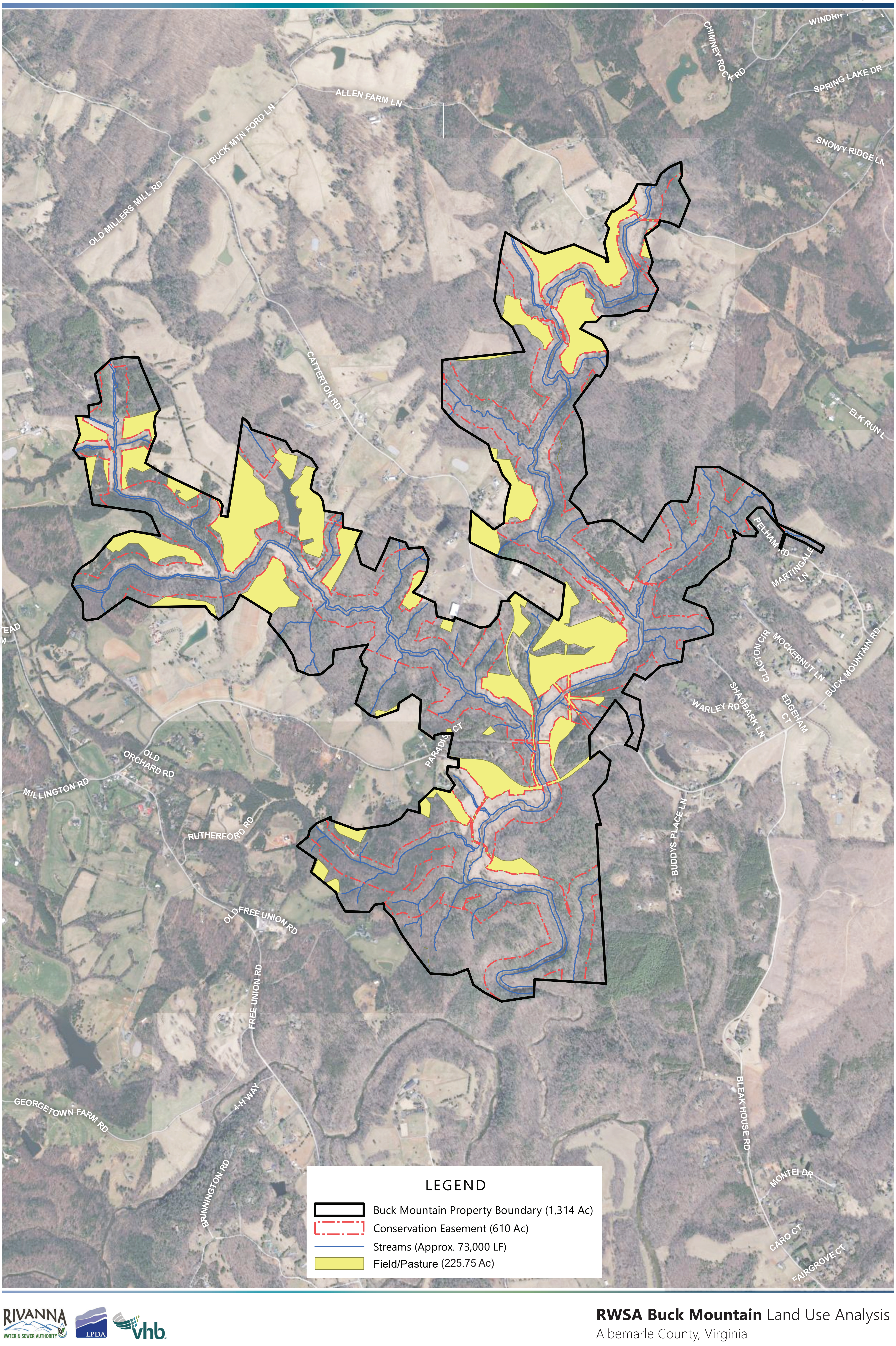
Table 2: Stormwater Management Estimated Phosphorus Removal Rates

Land Cover	Stormwater Measure	Credits Gained (lbs Phosphorus Removed per Acre)
Unmaintained meadow	Converted to Forest	0.0
Mowed Lawn or Pasture	Converted to Forest	0.50[3]
Cropland	Converted to Forest	1.22[3]
Impervious	BMP Retention	2.08[4]

The Buck Mountain Property lies in a rural area with very little impervious surfaces. Also, there are no crop fields. The property is mostly forested providing the highest degree of natural stormwater filtration. Approximately 223 acres of pastures/fields could be converted to forested areas providing some reduction in nutrient loads, but the reductions in nutrient loads gained by converting pastures to forests are minimal (Figure 5). The Virginia DEQ cites a removal rate in areas west of Interstate 95 as 0.5 lbs of phosphorus per acre per year for converting pasture to forest. Assuming a best case that all open fields landward of the preservation areas are active pasture (223 acres), converting all of this acreage to forest would yield a total of 111.5 lbs of phosphorus removal. VHB understands the general price for a 1-lb credit of phosphorus ranges between $10,000 to $15,000 in the Charlottesville market area. The projected gross revenue to be gained at Buck Mountain, therefore, for a nutrient mitigation bank on the highest end would be $1,672,500. Assuming 300 one-gallon nursery stems per acre would be planted (66,900 trees) at $40 per stem installed (cost to include 1-year warrantee), the cost of planting the trees would be over $2.6M. Added to this cost would be fees to apply for and secure the mitigation bank permits, agency coordination, monitoring survivorship of planted trees, additional fencing, legal fees, and administrative costs for marketing and managing the mitigation bank. Given these costs, VHB believes that creating a profitable nutrient bank using the non-restricted clearings would not be practical.

[3] Virginia Department of Environmental Quality. 2005. Trading Nutrient Reductions from Nonpoint Source Best Management Practices in the Chesapeake Bay Watershed: guidance for Agricultural Landowners and Your Potential Trading Partners. https://deq.virginia.gov/Portals/0/DEQ/Water/PollutionDischargeElimination/VANPSTradingManual_2-5-08.pdf

[4] https://www.swbmp.vwrrc.vt.edu/wp-content/uploads/2017/11/GM16-2001-Virginia-Runoff-Reduction-Method_V3.pdf



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RWSA Buck Mountain Land Use Analysis

Albemarle County, Virginia

FIGURE 5

Fields and Pastures Outside of Conservation Areas

5

Land Management Implications

With ownership comes responsibilities as stewards of public land to properly manage the natural resources, maintain the improvements, and keep the property clean and free of nuisance debris. It requires a dedicated workforce and budget to handle routine items and repair/replace unexpected damages.

The first consideration in managing the Buck Mountain property is establishing goals and objectives. Within the framework of the deed restrictions at the Buck Mountain property, the riparian buffer areas may not offer much choice. But for the remaining sections of land, one or more objectives such as wildlife habitat improvements, timber production, water quality, public recreation, income from lease agreements, etc. are possibilities. Much depends on the intensity of changes RWSA wishes to employ compared to existing conditions, costs to implement the actions proposed, and how proposed land uses fit within the context of RWSA's mandated purpose. Once those goals and objectives are established, next would come a written management plan.

This section is intended to provide RWSA some basic considerations of managing the property over the long term that may help with future land-use decisions. For purposes of this discussion, VHB offers the following considerations generalized under two categories: Ecological Management and Infrastructure Management.

Ecological Management Considerations

The Buck Mountain property offers a wide range of ecological systems and habitat types. For the most part, these systems are in relatively good condition. But while the Buck Mountain property may appear to be somewhat self-sustaining with regard to ecological processes, a "leave it untouched" approach can be detrimental to the long-term ecology of the site. With the deed restrictions in place, this approach can be especially true since the deed restrictions provide a simple excuse to do nothing. However, VHB has observed properties having virtually no natural resource management goals in place (namely public parks) become near biological deserts because of poor attention given to clear signs of changing conditions. In particular, public lands are prime areas for deer to find refuge and invasive plants to proliferate because of over-browsing. Too often deer population densities explode over 10 times what the ecological system can sustain. The end results become low biological diversity; forests that can't regenerate because of deer over-browsing; understories that comprise almost 100 percent of invasive species such as Nepalese browntop (*Microstegium vimineum*), Japanese barberry (*Berberis vulgaris*), and multiflora rose (*Rosa multiflora*); and poor wildlife habitat for other species. Once that happens, it becomes almost impossible to reverse because of the intensity of management activities and costs. As RWSA considers long-term ownership of the Buck Mountain property, avoiding such an ecological condition should be a management goal. VHB suggests RWSA perform a flora and fauna inventory to establish baseline conditions, determine the degree to which invasive species are present, and continue to monitor the ecological conditions to spot undesirable changes so that corrective actions can be taken early. RWSA may need to be prepared for intensive steps such as deer removal and invasive species control to retain an ecological balance. RWSA would also need to have plans in place in response to natural disasters such as wildfires, tree diseases/insect infestations, and storm damage, as these events can often promote invasive species outbreaks.

Infrastructure Management

The Buck Mountain property does not retain an overwhelming amount of improvements that require significant upkeep and replacement. Most are roads, trails, and fences. For a passive management approach, perhaps simple upkeep of existing infrastructure is all that is desired. Issues such as repairing washed out dirt roads and culverts, cleaning debris after a wind storm, and replacing a vandalized gate are the undesirable and often overlooked realities to managing land, Buck Mountain being no exception. RWSA will need to consider to what degree performing these duties on a routine basis becomes an unacceptable burden to daily operations, or whether these realities are embraced as a part of normal operations.

While not every aspect of managing property infrastructure at Buck Mountain can be detailed in this report, VHB wishes to outline just a few for RWSA consideration.

Improved Dirt Roads

Improved dirt roads are scattered across the property in short segments totaling approximately one mile (Figure 5). Routine maintenance would be necessary to prevent and repair ruts, potholes, and eroded gullies, particularly on steeper slopes. Proper equipment and skilled operators are necessary for this job, mostly likely supplied by a local contractor. Gravel may need to be hauled in to improve road surfaces. Depending on the stability of the base material, road maintenance is usually an annual task. Frequent visits to the property to inspect roads, particularly after heavy rainfall events, are suggested to spot areas in need of minor repair before further instability of the roadbed causes the road to be impassable and repair costs become overly expensive. RWSA may wish to examine the need for additional improved roads (i.e., engineered designed gravel) to reach other sections of the property so as not to rely on adjacent property owners for access.

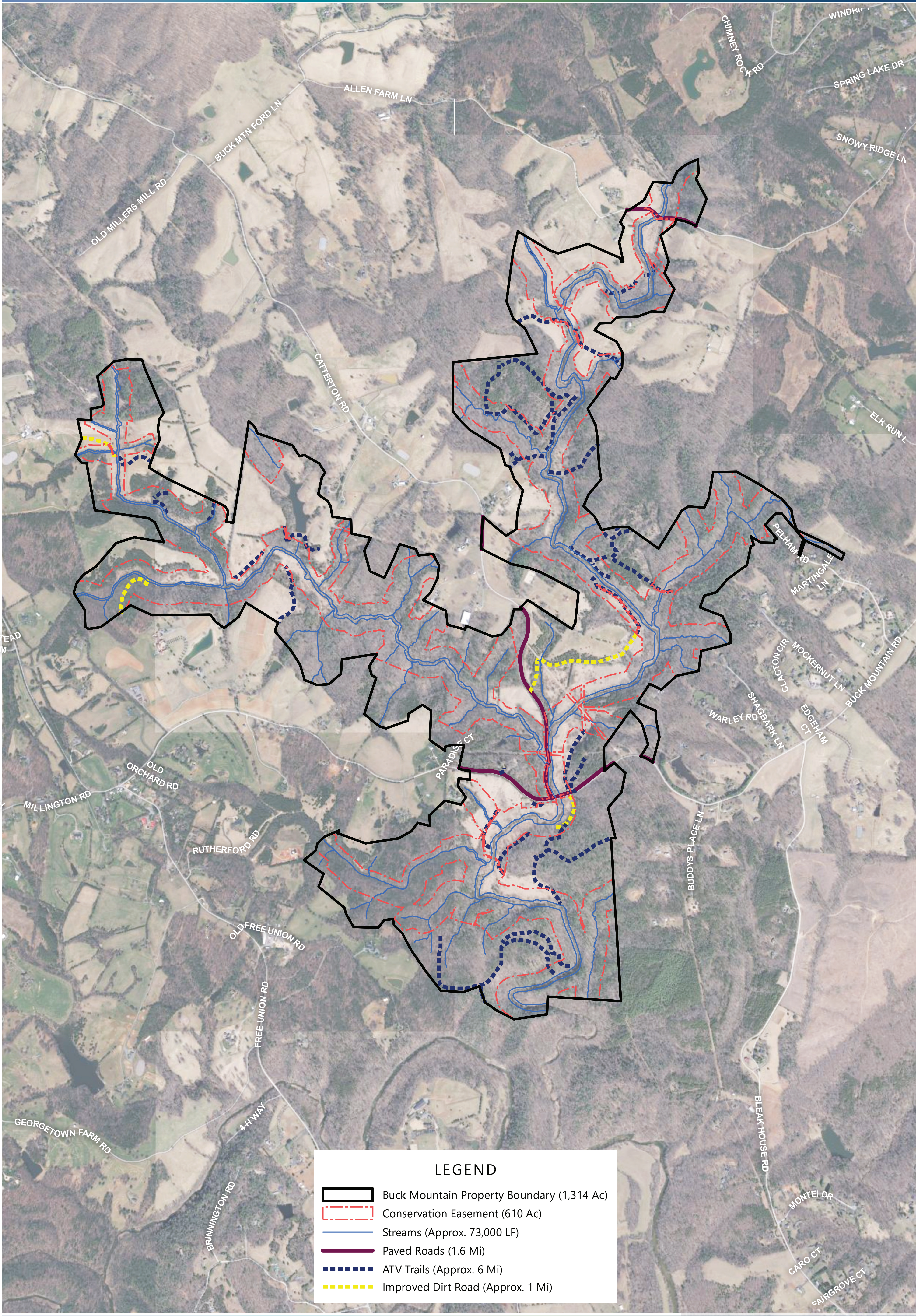

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FIGURE 6
Roads and ATV Trails

ATV Trail

VHB estimates approximately 8 miles of ATV trails/unimproved roads are present within the property boundaries (Figure 6). Many of the ATV trails are in a condition that they could be used by four-wheeled drive trucks but continued use by heavy vehicles can quickly cause trails to deteriorate. It may be advisable to rate each trail in terms of surface condition (wet, dry, mudholes, etc.) and pinpoint those trails not usable by larger vehicles. ATVs are a great source of transportation across rough terrain to gain access to places trucks can't reach. It is recommended that RWSA consider establishing an ATV trail network that, once on the property, personnel can gain access across the entire property (stream crossings included) without having to exit the property and re-enter somewhere else.

Fencing and Gates

While not fully measured, an estimated 10 miles or more of fences and 23 gates were observed on the property. Most of the fencing runs along the boundaries of the planted mitigation areas within the deed restricted riparian zones and leased pastureland. The estimated lifespan of a typical barbed wire fence and gate is 20 years. A simplified management objective, therefore, would be to expect replacement of one-twentieth of the fences each year and 1 gate every year. RWSA should perform inspections of all fences and gates every year to determine if damaged has been caused by natural events or vandalism.

Property Boundaries

The Buck Mountain property has approximately 17 miles of property boundary which may require routine upkeep. Management of the boundary lines can range from doing nothing to painting the boundary lines and posting "No Trespassing" signs. Most public parks maintain their boundary lines with posted signs at a minimum that enables legal enforcement of trespass laws. If RWSA wishes to have identifiable boundary lines in the field, all lines would need to be painted and new signs posted, and RWSA could expect refreshing sections of line every five years.

Since RWSA is obligated to protect the deed restricted areas from prohibited activities, this adds another element to the boundary issue. RWSA should consideration whether the preservation areas should also be identified in the field and posted as well, which would add another 30 miles to maintain.

In summary, managing large tracts of land is time consuming, expensive, and challenging. Routine maintenance and upkeep can be overburdensome enough, let alone contending with unexpected situations like wildfires, storm damage, washouts and vandalism. While the list above provides a simple overview of considerations for the field, RWSA will need to consider in-office activities as well to include day-to-day administrative duties, long term planning, risk assessments/liabilities, and the degree to which legal assistance is needed.

Appendices

Appendix A

Listed Species Information

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

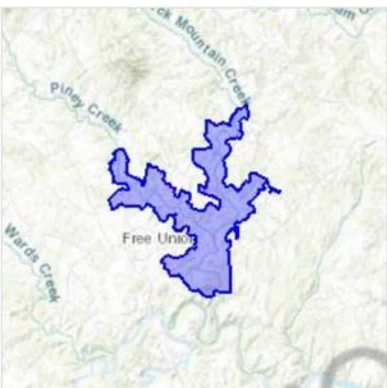
Project information

NAME

Buck Mountain Master Plan

LOCATION

Albemarle County, Virginia



DESCRIPTION

Develop master planning document for the Buck Mountain Creek property owned by Rivanna Water and Sewer Authority including environmental constraints and development options.

Local office

Virginia Ecological Services Field Office

(804) 693-6694
(804) 693-9032

6669 Short Lane
Gloucester, VA 23061-4410

http://www.fws.gov/northeast/virginiafield/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Clams

NAME	STATUS
James Spinymussel *Pleurobema collina* No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2212	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

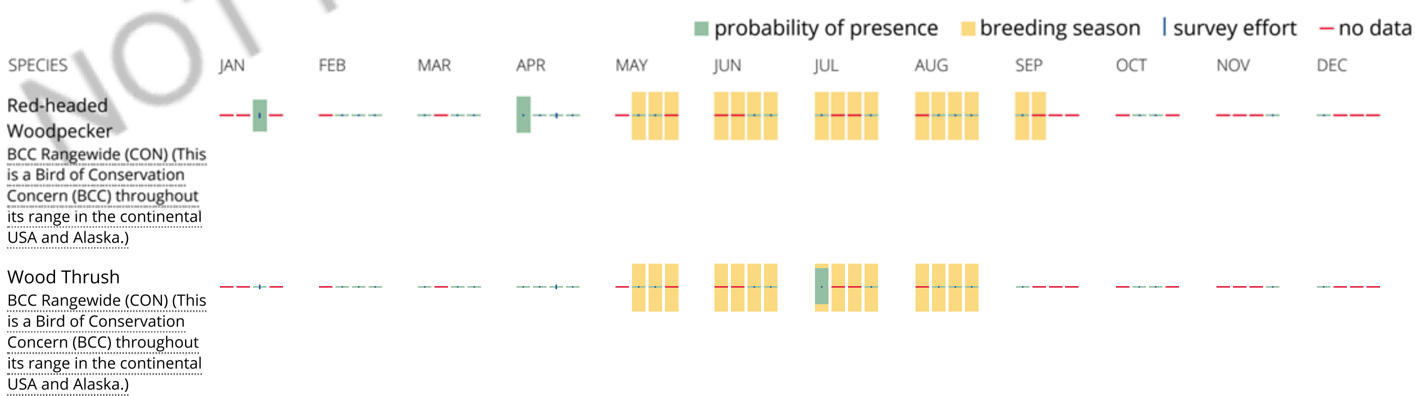
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
  Palustrine

RIVERINE
  Riverine

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Web Project ID: WEB0000012840

Client Project Number: 34603.00

Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

PROJECT INFORMATION

TITLE: Buck Mountain Master Plan

DESCRIPTION: Develop master development plan including environmental restraints for Buck Mountain Creek property owned by Rivanna Water and Sewer Authority.

EXISTING SITE CONDITIONS: Stream mitigation site with enhanced buffers. Much of the buffer area had been clear cut, but was planted as mitigation for the expansion of the ragged mountain reservoir. Currently all mitigation areas on the property are protected by deed restrictions

QUADRANGLES: Free Union

COUNTIES: Albemarle

Latitude/Longitude (DMS): 38° 8' 59.2906" N / 78° 32' 40.7008" W

Acreage: 1,314 acres

Comments:

REQUESTOR INFORMATION

Priority: N **Tier Level:** Tier II Plus **Tax ID:**

Contact Name: Sean Murray

Company Name: VHB

Address: 351 McLaws Circle, Suite 3

City: Williamsburg **State:** VA **Zip:** 23185

Phone: 8134316043 **Fax:** 757-220-8544 **Email:** seanmurray@vhb.com

Conservation Site	Site Type	Brank	Acreage	Listed Species Presence
ELK RUN SCU	SCU	B2	19	FL

Natural Heritage Screening Features Intersecting Project Boundary

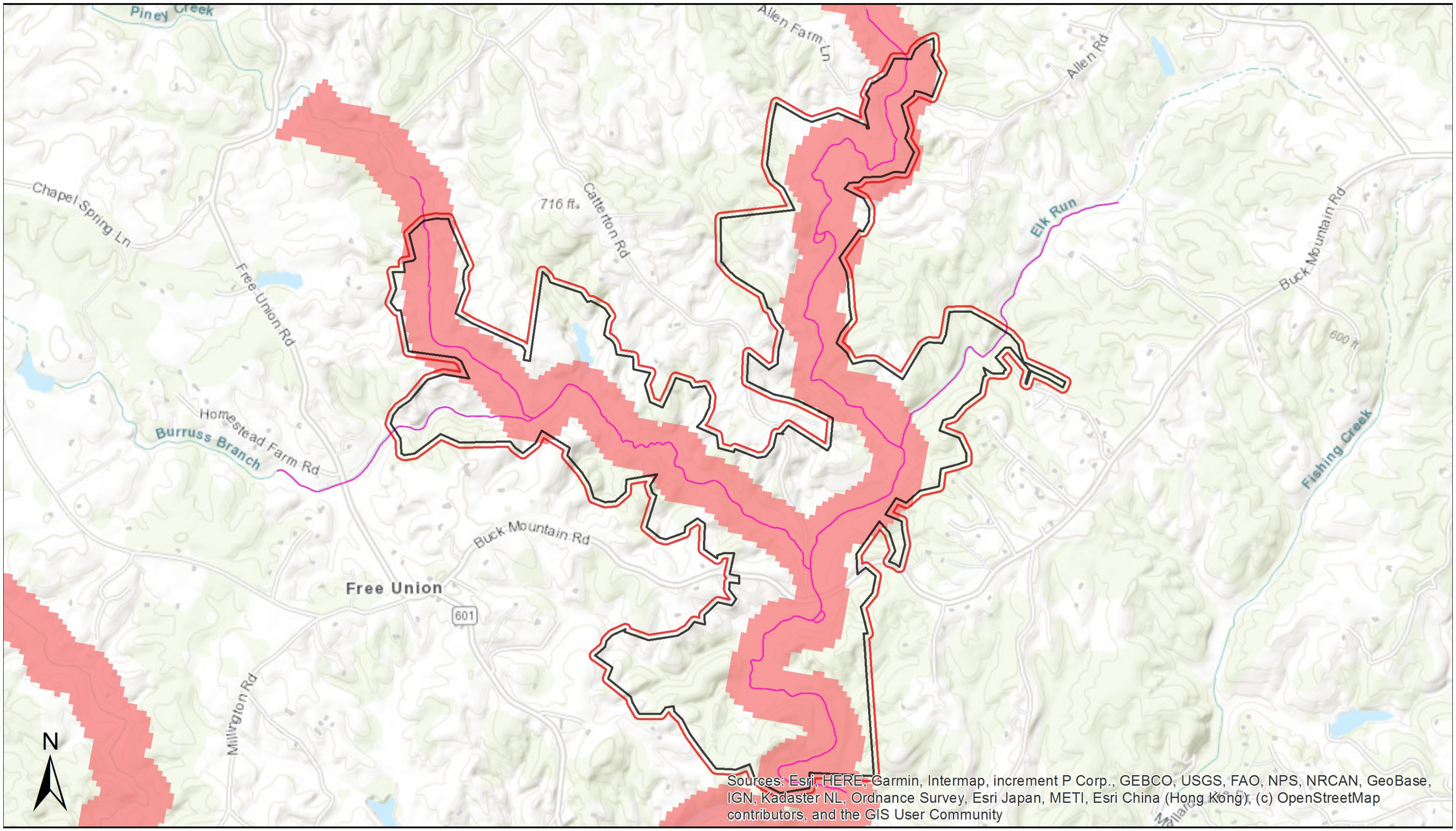
Site Name	Group Name	Common Name	Scientific Name	GRANK	SRANK	Fed Status	Species of Concern	State Status	EO Rank	Last Obs Date	Precision
ELK RUN SCU	Aquatic Natural Community	NB-Rivanna Second Order Stream	NB-Rivanna Second Order Stream	G2?	S2?				C	2011-01	
MOORMANS RIVER - DOYLES RIVER SCU, ROCKY CREEK SCU, ELK RUN SCU	Invertebrate Animal	James Spinymussel	Parvaspina collina	G1	S1	LE		LE	BC	2003-06-24	S

Natural Heritage Resources Intersecting Project Boundary

Intersecting Predictive Models
James Spinymussel

Predictive Model Results

Buck Mountain Master Plan



Project Boundary

Buffered Project Boundary

NH_Screening_Layer

NH Screening Features

Conservation Site

SCU

Predictive Models

1:30,215

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

Quads: Free Union

Counties: Albemarle

Company: VHB

Lat/Long: 380859 / -783240

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

The project mapped as part of this report has been searched against the Department of Conservation and Recreation's Biotics Data System for occurrences of natural heritage resources from the area indicated for this project. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in Biotics files, NATURAL HERITAGE RESOURCES HAVE BEEN DOCUMENTED within the submitted project boundary including a 100 foot buffer and/or PREDICTED HABITAT MODELS FOR NATURAL HERITAGE RESOURCES intersect the project area.

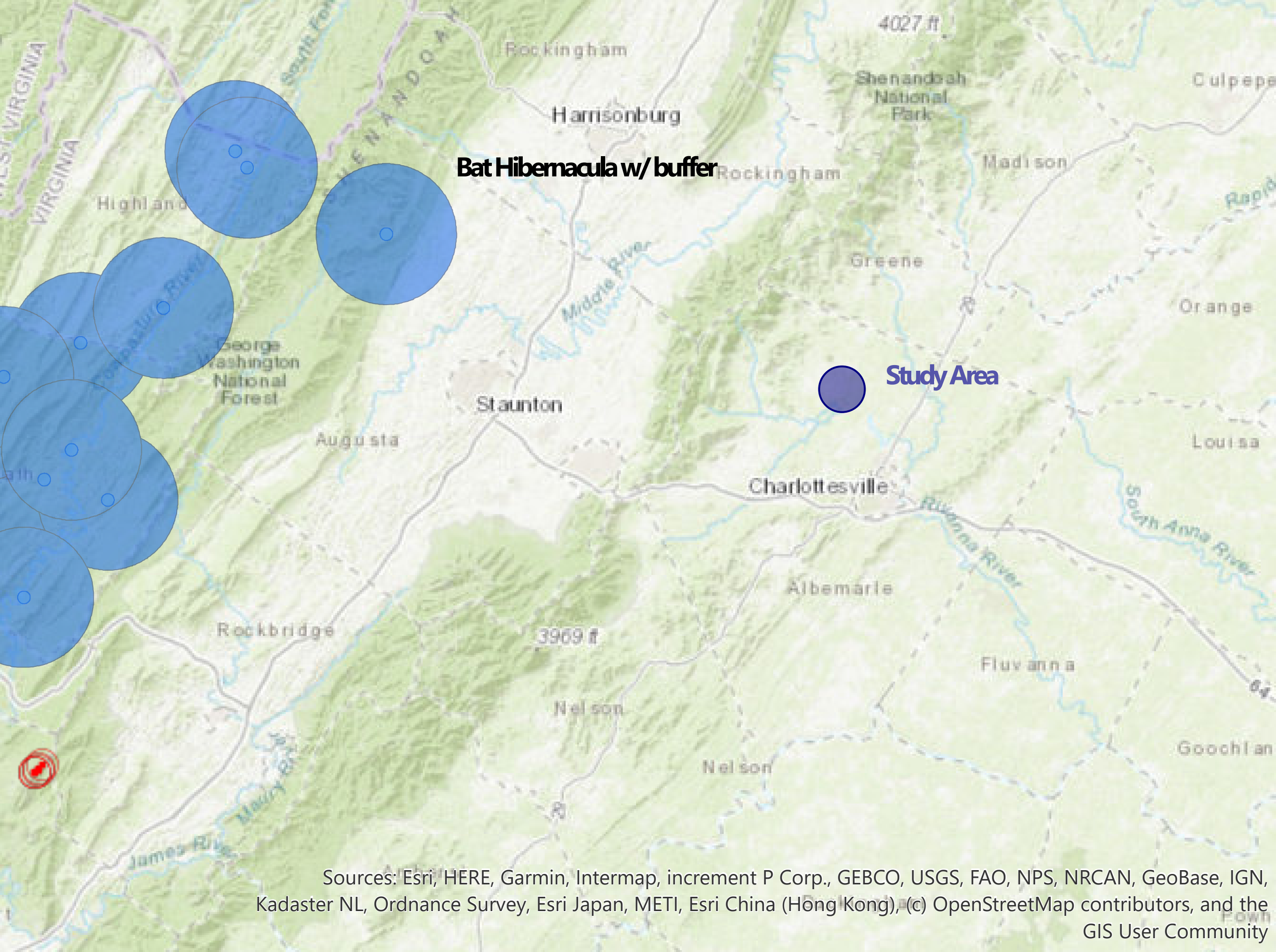
You have submitted this project to DCR for a more detailed review for potential impacts to natural heritage resources. DCR will review the submitted project to identify the specific natural heritage resources within the proposed project area including a 100 foot buffer. Using the expertise of our biologists, DCR will evaluate whether your specific project is likely to impact these resources. DCR's response will indicate whether any negative impacts are likely and, if so, make recommendations to avoid, minimize and/or mitigate these impacts. If the potential negative impacts are to species that are state- or federally-listed as threatened or endangered, DCR will also recommend coordination with the appropriate regulatory agencies: the Virginia Department of Game and Inland Fisheries for state-listed animals, the Virginia Department of Agriculture and Consumer Services for state-listed plants and insects, and the United States Fish and Wildlife Service for federally listed plants and animals. If your project is expected to have positive impacts we will report those to you with recommendations for enhancing these benefits.

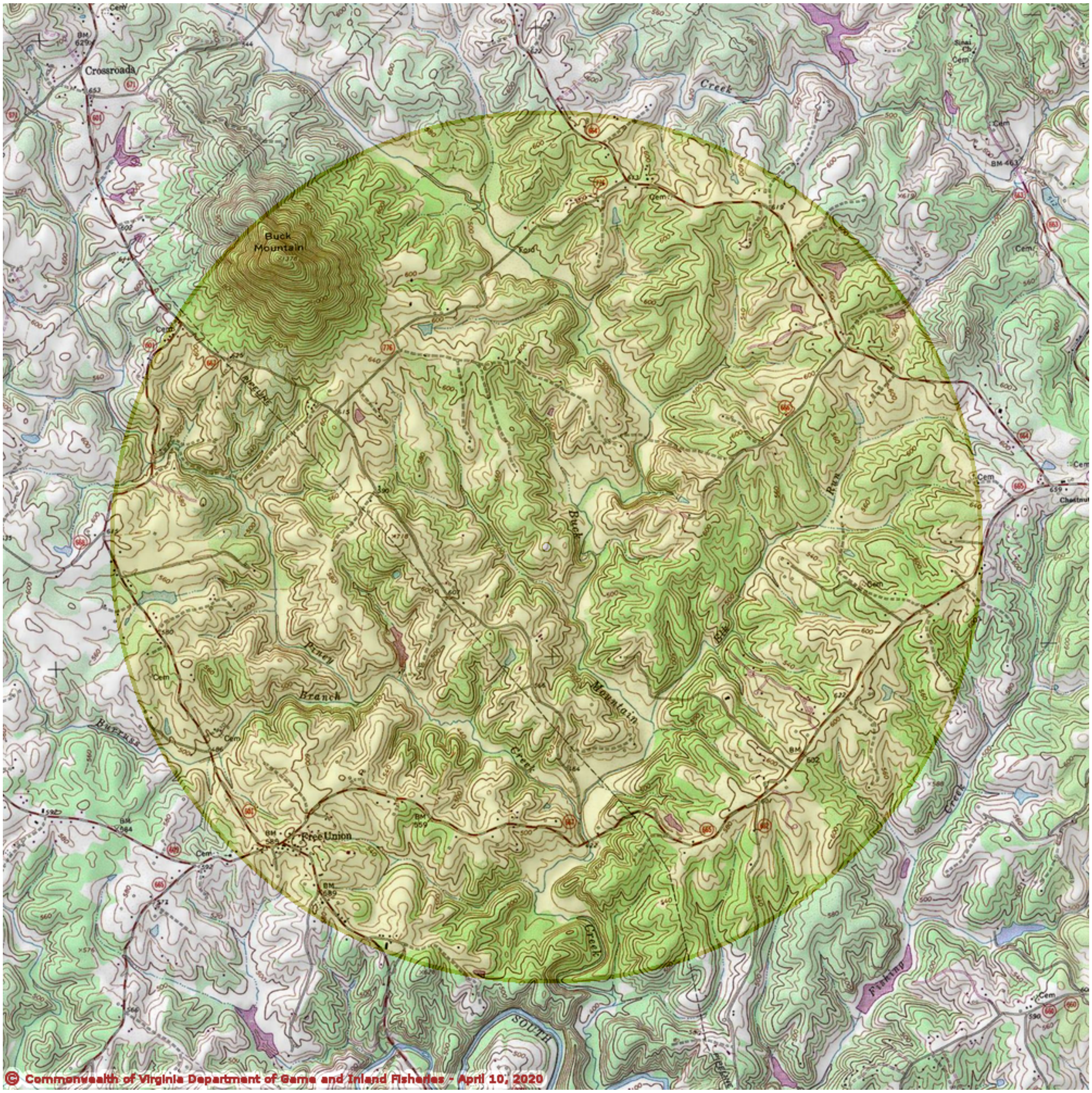
There will be a charge for this service for "for profit companies": $60, plus an additional charge of $35 for 1-5 occurrences and $60 for 6 or more occurrences.

Please allow up to 30 calendar days for a response, unless you requested a priority response of 5 business days at an additional surcharge of $500 or 15 calendar days at an additional surcharge of $300. An invoice will be provided with your response.

We will review the project based on the information you included in the Project Info submittal form, which is included in this report. Also any additional information including photographs, survey documents, etc. attached during the project submittal process and/or sent via email referencing the project title (from the first page of this report).

Thank you for submitting your project for review to the Virginia Natural Heritage Program through the NH Data Explorer. Should you have any questions or concerns about DCR, the Data Explorer, or this report, please contact the Natural Heritage Project Review Unit at 804-371-2708.


Bat Hibernacula w/ buffer
Study Area
Harrisonburg
Rockingham
Rockingham
Shenandoah National Park
Culpeper
Madison
Greene
Orange
Highland
George Washington National Forest
Staunton
Augusta
Charlottesville
Louisa
Albemarle
Rockbridge
3969 ft
4027 ft
Fluvanna
Nelson
Nelson
Goochland
Middle River
Rivanna River
South Anna River
Cowpasture River
Maury River
James River
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community


Crossroads
Buck Mountain
Buck
Mountain
Piney
Branch
Creek
Free Union
SOUTH
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VaFWIS Initial Project Assessment Report Compiled on 4/10/2020, 4:25:48 PM

Help

Known or likely to occur within a **2 mile radius around point 38,10,26.4 -78,32,29.7** in **003 Albemarle County, VA**

View Map of Site Location

481 Known or Likely Species ordered by Status Concern for Conservation (displaying first 22) (22 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes	BOVA,TEWaters,Habitat,SppObs
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
060173	FPST	Ia	Pigtoe, Atlantic	Fusconaia masoni		BOVA
060081	ST	IIa	Floater, green	Lasmigona subviridis		BOVA,Habitat
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
040092		Ia	Eagle, golden	Aquila chrysaetos		BOVA
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA

100248		Ia	[Fritillary, regal](#)	Speyeria idalia idalia		BOVA
040052		IIa	[Duck, American black](#)	Anas rubripes		BOVA
040320		IIa	[Warbler, cerulean](#)	Setophaga cerulea		BOVA
040140		IIa	[Woodcock, American](#)	Scolopax minor		BOVA
040203		IIb	[Cuckoo, black-billed](#)	Coccyzus erythropthalmus		BOVA
040105		IIb	[Rail, king](#)	Rallus elegans		BOVA
040304		IIc	[Warbler, Swainson's](#)	Limnothlypis swainsonii		BOVA

To view **All 481 species** View 481

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need;
II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;
III=VA Wildlife Action Plan - Tier III - High Conservation Need;
IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.;
b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (24 Reaches - displaying first 20)

View Map of All Threatened and Endangered Waters

Stream Name	Highest TE*	T&E Waters Species BOVA Code, Status*, Tier**, Common & Scientific Name					View Map
(0106134)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes

Buck Mountain Creek (0100623)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0102188)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0102371)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0104122)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0106135)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0106160)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0133058)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0135956)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0136001)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (0140099)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (090354)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (093508)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (095512)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (095521)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (095923)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (096414)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (096423)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (097618)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Buck Mountain Creek (098103)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
	FESE						Yes

Buck Mountain Creek (099280)		060017	FESE	Ia	Spinymussel, James	Parvaspina collina	
Piney Creek (0101017)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
Piney Creek (0124113)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes

To view **All 24 Threatened and Endangered Waters records** View 24

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (4 Reaches)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Highest TE*	Tier Species BOVA Code, Status*, Tier**, Common & Scientific Name					View Map
Buck Mountain Creek (20802041)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
		060081	ST	IIa	Floater, green	Lasmigona subviridis	
Buck Mountain Creek (20802042)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
		060081	ST	IIa	Floater, green	Lasmigona subviridis	
Piney Creek (20802041)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes
		060081	ST	IIa	Floater, green	Lasmigona subviridis	
	FESE						Yes

Piney Creek (20802041)		060017	FESE	Ia	Spinymussel, James	Parvaspina collina	
Piney Creek (20802041)	FESE	060017	FESE	Ia	Spinymussel, James	Parvaspina collina	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Public Holdings:

N/A

Compiled on 4/10/2020, 4:25:48 PM I1025097.0 report=IPA searchType= R dist= 3218.688 poi= 38,10,26.4 -78,32,29.7

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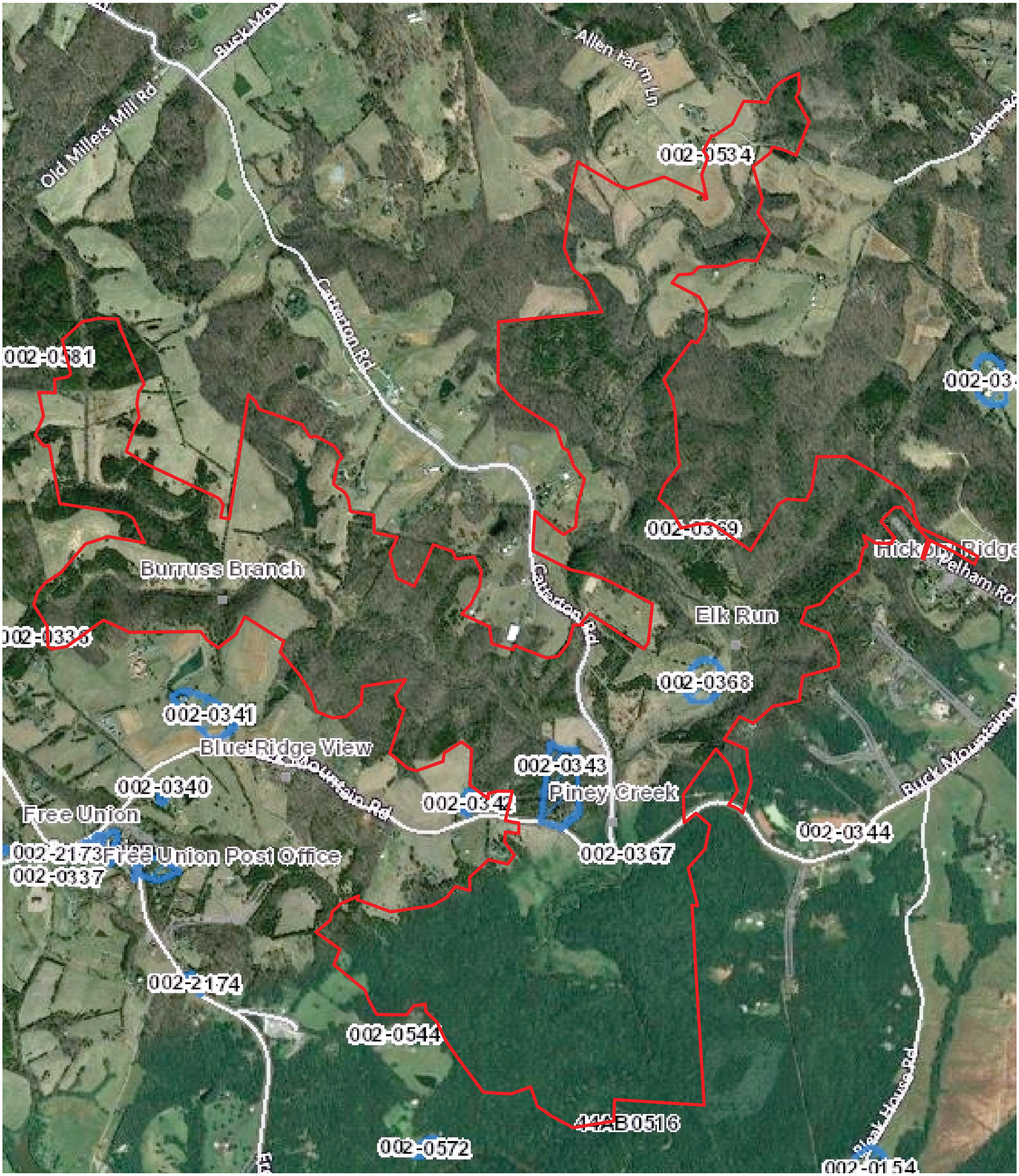
Appendix B

Virginia Department of Historic Resources Archive Review



RWSA Buck Mountain Land Use Analysis
Albemarle County, Virginia

North

0 SCALE IN FEET 1,500

FIGURE 7
Cutlural Resource Map

Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
- DHR Easements
- USGS GIS Place names
- County Boundaries

N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Architecture Labels **Date: 3/31/2020**

DISCLAIMER:Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions.The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

Notice if AE sites:Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 1880 Buck Mountain Road (Route 665)
Historic	Elliot House
Historic/Current	H. Elliot House

Property Evaluation Status

Not Evaluated

Property Addresses

Current - 1880 Buck Mountain Road Route 665

County/Independent City(s): Albemarle (County)
Incorporated Town(s): *No Data*
Zip Code(s): 22940
Magisterial District(s): *No Data*
Tax Parcel(s): 29-35H
USGS Quad(s): FREE UNION

Additional Property Information

Architecture Setting: Rural
Acreage: 10
Site Description:

1976/1980: The property is located 1.8 mile east of the intersection of Routes 609 and 665 near Free Union in western Albemarle County. The house sits on a ridge above Route 665 on an open lawn and is in good condition.

1976: The well that was drilled in the latter nineteenth century still services the house and has not a single piece of man-made wall as it was drilled through seventy feet of hard rock and ten feet of soft rock. There are no outbuildings associated with this property. [27 acres]

1980: The property is now 10 acres.

2019: Located at 1880 Buck Mountain Road at Catterton Road near Free Union.

Surveyor Assessment:

1976: The majority of this house was built around 1905 by an Elliot in whose family the property had been for many years. The kitchen portion is the oldest, as that was a late nineteenth century addition to an earlier house that was later destroyed; the current house is built on much of the same foundation.

1980: Presently owned by George and Constance Palmer.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1905
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Landscape, Domestic
Other ID Number: *No Data*
Architectural Style: Other
Form: L-Plan

Number of Stories: 2.0
Condition: Good
Interior Plan: Central Passage, Single Pile
Threats to Resource: Major Alteration, Neglect
Architectural Description:

1976: The current house is a two story, three bay, single pile, L-shaped building. It is wood frame built on a stone foundation and is completely stuccoed and has a returned cornice. The roof is gabled and pedimented over the central bay. Of special interest is the single chimney on the side that indicates that the house was built in different stages. Built in the late 1800's, 1905. The house is in good condition.

1980: This early 20th century building has been completely remodeled. Frame with stucco on rubblestone foundation; two stories; tin gable roof. No apparently threats.

2019: Stucco house with gable roof; two story; center gable and an arched porch. Could have originally been an I-house that was "modernized" over the years with additions and new doors and windows. Chamfered square stair newel post with rectangular banisters.

Exterior Components

Component	Component Type	Material	Material Treatment
Windows	Sash, Double-Hung	Wood	4/4
Chimneys	Exterior side	Stucco	Other
Windows	Sash, Double-Hung	Wood	6/6
Porch	1-story, 3-bay	Wood	Other
Roof	Gable	Metal	Standing Seam
Structural System and Exterior Treatment	Frame	Wood	Stuccoed
Windows	Sash, Double-Hung	Wood	8/8
Windows	Fixed	Wood	Other
Foundation	*No Data*	Stone	Other

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Volunteer

Project Review File Number: *No Data*
Investigator: K. Edward Lay
Organization/Company: UVA
Photographic Media: Digital
Survey Date: 7/16/2019
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Margaret P. Mickler
Organization/Company: VA Dept. of Historic Resources
Photographic Media: Film
Survey Date: 5/1/1980

Dhr Library Report Number: *No Data*

Project Staff/Notes:

No Data

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*

Investigator: MacLeod & Wenger- UVa

Organization/Company: UVA

Photographic Media: Film

Survey Date: 10/1/1976

Dhr Library Report Number: *No Data*

Project Staff/Notes:

Buck Mountain Road Survey, fall of 1976 - Building #46: Student project documented under the direction of K. Edward Lay, Assistant Dean of Architecture, UVA.

Bibliographic Information

Bibliography:

Patrick W. O'Bannon, Donna J. Seifert
Route 29 Corridor Study, City of Charlottesville and Albemarle County, Phase II Historic Architectural Investigations
John Milner Associates - 1991
DHR Project No. 1990-0396
DHR Report No. AB-052

Property Notes:

Jan 2018 - DHR Archives note: This property was mis-identified previously as the John H. Elliot House, which is a different property in Albemarle County. The eligibility determination from 1990 for the John H. Elliot property has been removed from this record.

Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
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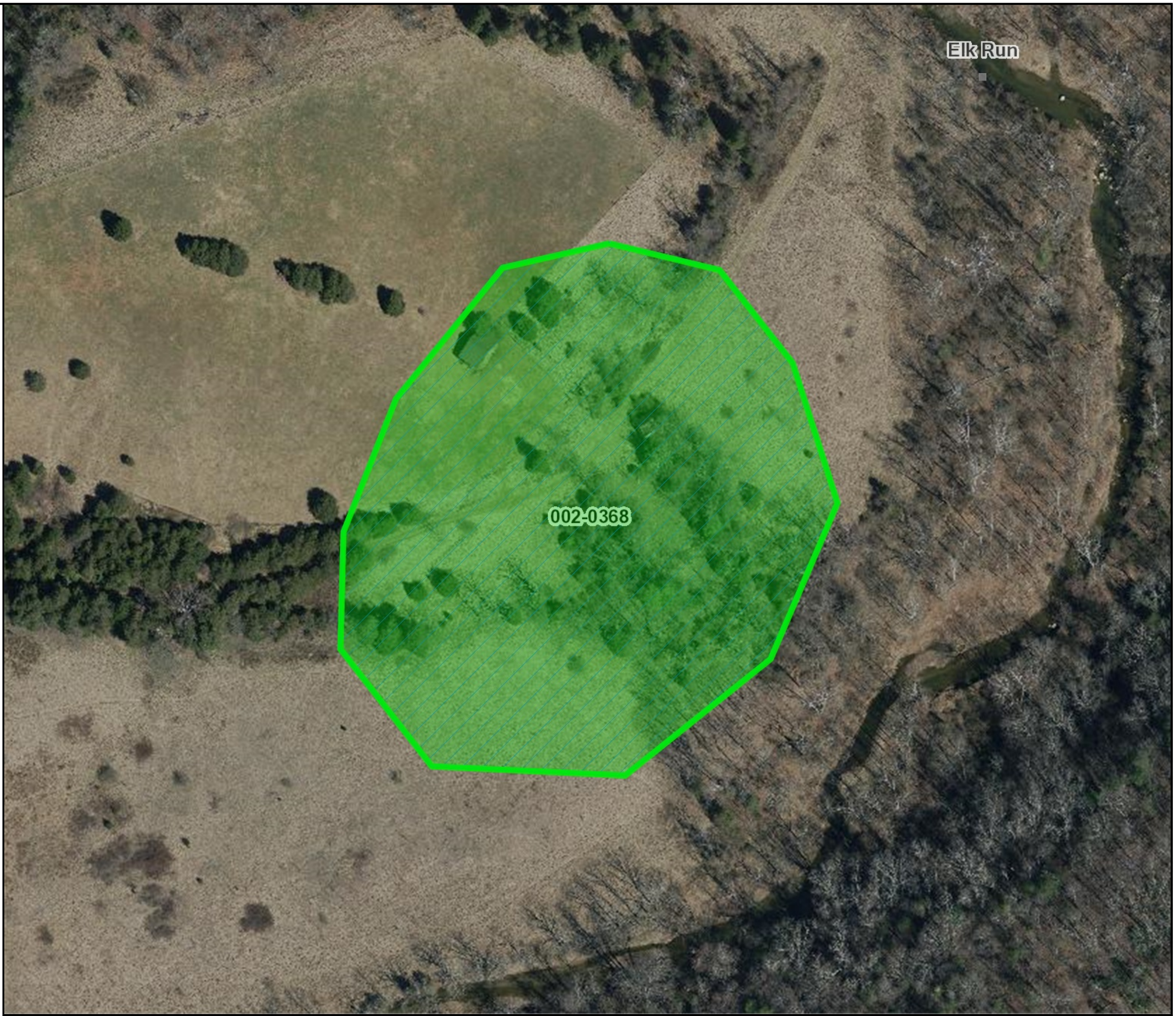
N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet



Title: Architecture Labels **Date: 3/31/2020**

DISCLAIMER:Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions.The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

Notice if AE sites:Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.

Property Information

Property Names

Name Explanation	**Name**
Function/Location	House, Route 665
Historic	Catterton Place
Historic/Current	Catterton Farm

Property Evaluation Status

Not Evaluated

Property Addresses

Current - Route 665

County/Independent City(s): Albemarle (County)

Incorporated Town(s): *No Data*

Zip Code(s): *No Data*

Magisterial District(s): *No Data*

Tax Parcel(s): *No Data*

USGS Quad(s): FREE UNION

Additional Property Information

Architecture Setting: Rural

Acreage: 152

Site Description:

The property is located 2.2 miles east of the intersection of Routes 609 and 665 on Route 665. The house sits in a well-maintained yard at the edge of a ridge above Elk Run.

There is a kitchen and a tobacco barn situated to the immediate north of the main dwelling. A 20th century outbuilding is located to the east of the main dwelling.

Surveyor Assessment:

The original Catterton house still stands about a half mile north across the Buck Mountain Creek. The present house is said to have been built c. 1826 by Michael Catterton, the grandfather of the owner (as per 1980 survey). The land has been in the continuous possession on the Catterton family since they settled the property in the 1730s and the land was granted to them by the King of England.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	**Ownership Entity**
Private	*No Data*

Associate

Property Associate Name	**Property Associate Role**
Catterton, Michael	Owner

Primary Resource Information

Resource Category: Domestic

Resource Type: Single Dwelling

NR Resource Type: Building

Historic District Status: *No Data*

Date of Construction: Ca 1826

Date Source: Site Visit

Historic Time Period: Early National Period (1790 - 1829)

Historic Context(s): Architecture/Landscape, Domestic, Subsistence/Agriculture

Other ID Number: *No Data*

Architectural Style: Other

Form: *No Data*

Number of Stories: 2.0

Condition: N/A
Interior Plan: Hall-Parlor
Threats to Resource: Relocation
Architectural Description:

The house is a two story, four bay, single pile structure with a small kitchen wing. The western two front bays were built before the two eastern, or right, bays. One of the middle rooms on the first floor contains a totally enclosed staircase. The second floor contains three rooms. On either side of the house are large brick chimneys, the fireplaces to which have refinely but elaborately carved wooden mantel pieces, which now have been stripped of their paint and finished with a wood stain. Across the western, or left, two front bays is a one story porch. The entire house is wood frame and built on a stone foundation with a green, standing seam tin, gabled roof. The house is painted white and trimmed in green. Was in good condition - moved for reservoir project.

Exterior Components

Component	Component Type	Material	Material Treatment
Foundation	Solid/Continuous	Stone	Rubble, Random
Windows	Sash, Double-Hung	Wood	6/6
Roof	Gable	Metal	Standing Seam
Structural System and Exterior Treatment	Frame	Wood	Weatherboard
Windows	Sash, Double-Hung	Wood	9/6
Chimneys	Exterior End	Stone	Rubble, Random

Secondary Resource Information

Secondary Resource #1

Resource Category: Agriculture/Subsistence
Resource Type: Tobacco Barn
Date of Construction: 1830Ca
Date Source: Site Visit
Historic Time Period: Antebellum Period (1830 - 1860)
Historic Context(s): Architecture/Landscape, Domestic, Subsistence/Agriculture
Architectural Style: Other
Form: *No Data*
Condition: Deteriorated
Threats to Resource: Deterioration
Architectural Description:

There were originally four tobacco barns; only one remains today. This barn is of mortise and tenon construction, has two rows of tie beams, one set of collars, rests upon rubblestone foundations, and is sheathed in new weatherboards.

This frame barn has weatherboard siding, a standing seam metal gable roof, and a vertical board door. It is in a very weathered state. circa 1830-1860.

Number of Stories: *No Data*

Secondary Resource #2

Resource Category: Domestic
Resource Type: Kitchen
Date of Construction: Ca
Date Source: *No Data*
Historic Time Period: *No Data*
Historic Context(s): Architecture/Landscape, Domestic, Subsistence/Agriculture
Architectural Style: Other
Form: *No Data*
Condition: Good
Threats to Resource: *No Data*
Architectural Description:

The kitchen has squared (hewn pine) logs, square notched with mud chinking, covered with later weatherboards in the front. It rests on rubblestone piers (three per elevation), has a two bay front (there is only one opening at the rear), central rubblestone chimney, gable roof with unfinished loft, and is built on a slope. There is a shed addition to the rear.

Interior Plan: Two-Room

Number of Stories: 1

Secondary Resource #3

Resource Category: Domestic
Resource Type: Outbuilding,Domestic
Date of Construction: Ca
Date Source: *No Data*
Historic Time Period: *No Data*
Historic Context(s): Architecture/Landscape, Domestic, Subsistence/Agriculture
Architectural Style: *No Data*
Form: *No Data*
Condition: *No Data*
Threats to Resource: *No Data*
Architectural Description:

No Data

Number of Stories: *No Data*

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase II/Intensive

Project Review File Number: *No Data*
Investigator: Mickler, Margaret P.
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 5/1/1980
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Macleod and Wenger- UVA
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 1/1/1976
Dhr Library Report Number: *No Data*
Project Staff/Notes:

Buck Mountain Road Survey: Project documented by students under the direction of K. Edward Lay, Assistant Dean of the Architecture School, UVA.

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: O'Dell, Jeff
Organization/Company: Unknown (DSS)

Photographic Media: *No Data*
Survey Date: *No Data*
Dhr Library Report Number: *No Data*
Project Staff/Notes:

Hand-drawn sketch of plan and notes on the log kitchen. Handwriting is illegible and much of the writing is crossed out. No survey date provided.

Bibliographic Information

Bibliography:

No Data

Property Notes:

No Data

APPENDIX C

Recreation Market and Partnership Analysis

BUCK MOUNTAIN MASTER PLAN

Recreation Market and Partnership Analysis

JULY 16, 2020

RIVANNA WATER AND SEWER AUTHORITY

Table of Contents

Chapter One - COMMUNITY PROFILE

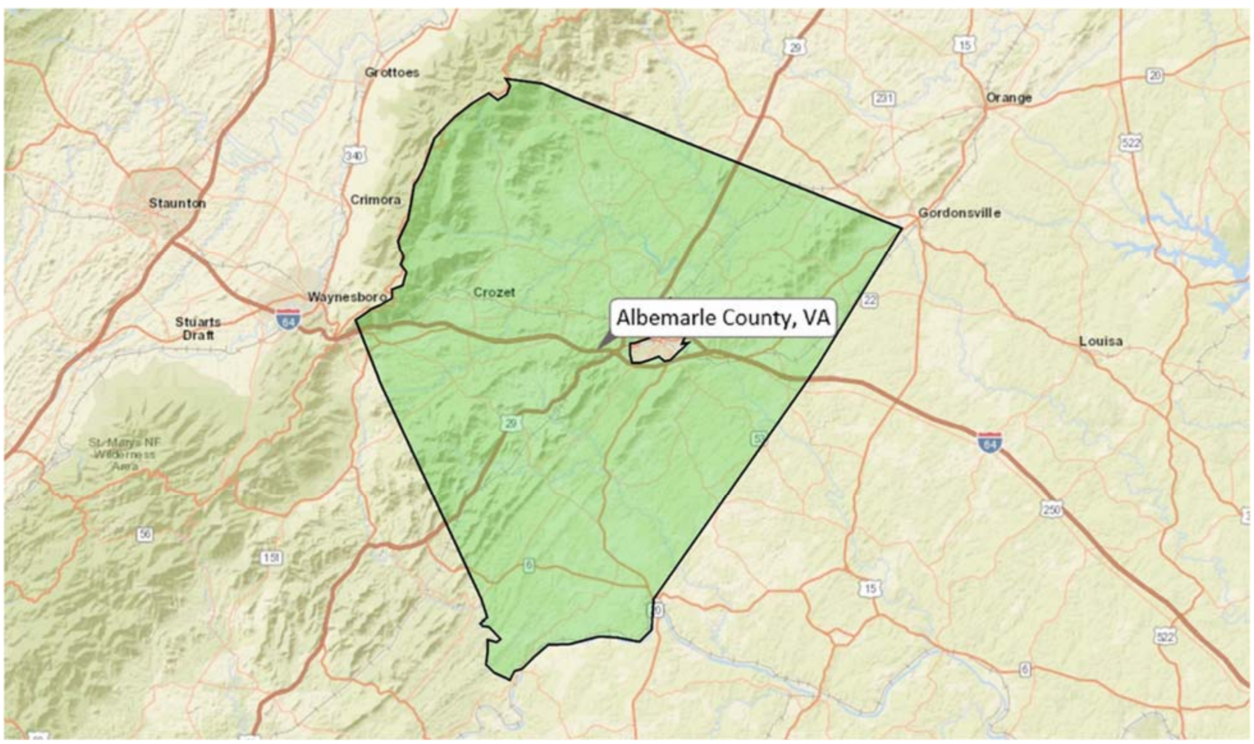
1.1 DEMOGRAPHIC ANALYSIS

The Demographic Analysis provides an understanding of the population of Albemarle County, Virginia. This analysis is reflective of the total population, and its key characteristics such as age segments, income levels, race, and ethnicity.

It is important to note that future projections are all based on historical patterns and unforeseen circumstances during or after the time of the projections could have a significant bearing on the validity of the final projections.

1.2 METHODOLOGY

Demographic data used for the analysis was obtained from U.S. Census Bureau and from ESRI, the largest research and development organization dedicated to Geographical Information Systems (GIS) and specializing in population projections and market trends. All data was acquired in September 2017 and reflects actual numbers as reported in the 2010 Censuses and estimates for 2017 and 2022 as obtained by ESRI. Straight line linear regression was utilized for projected 2027 and 2032 demographics. The County of Albemarle County boundaries utilized for the demographic analysis are shown below.



1.2.1 RACE AND ETHNICITY DEFINITIONS

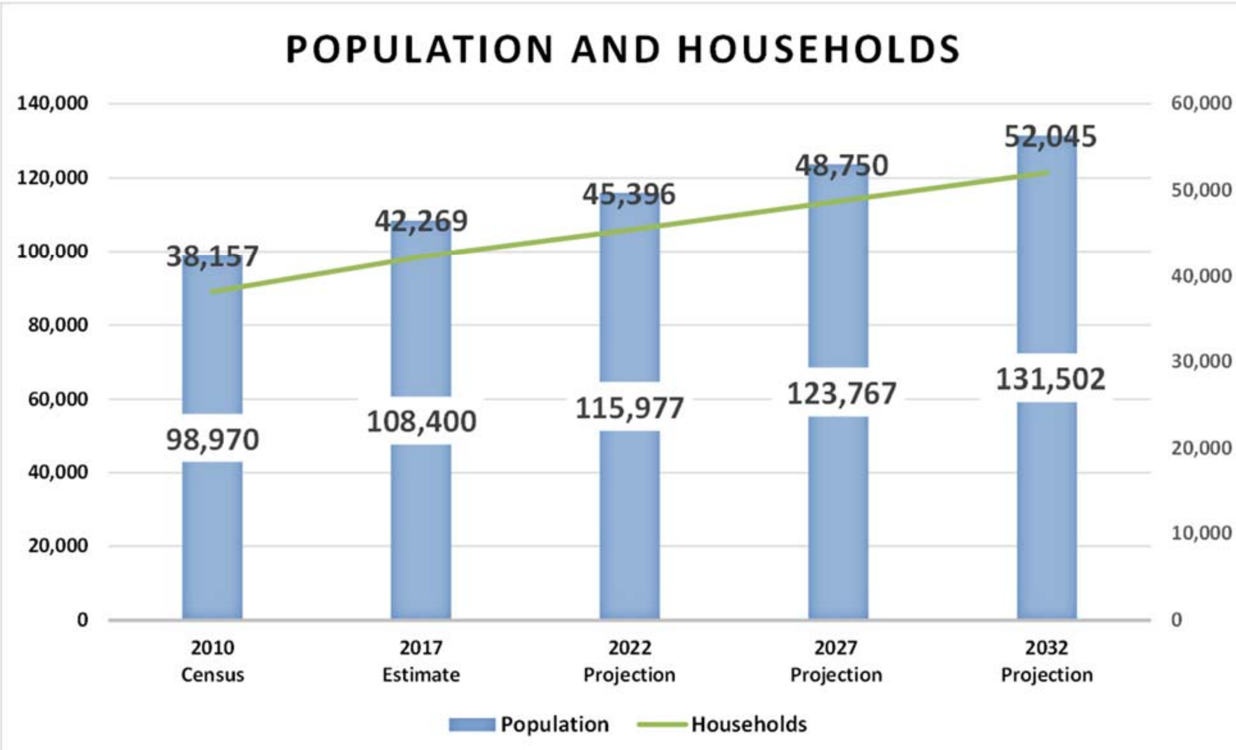
The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting are defined as below. The Census 2010 data on race are not directly comparable with data from the 2000 Census and earlier censuses; caution must be used when interpreting changes in the racial composition of the US population over time. The latest (Census 2010) definitions and nomenclature are used within this analysis.

- American Indian – This includes a person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment
- Asian – This includes a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam
- Black – This includes a person having origins in any of the black racial groups of Africa
- Native Hawaiian or Other Pacific Islander – This includes a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands
- White – This includes a person having origins in any of the original peoples of Europe, the Middle East, or North Africa
- Hispanic or Latino – This is an ethnic distinction, a subset of a race as defined by the Federal Government; this includes a person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race

1.3 ALBEMARLE COUNTY POPULACE

1.3.1 POPULATION

The County's population has experienced a growing trend in recent years and is currently estimated at 108,400 individuals. Projecting ahead, the total population is expected to continue to grow over the next 15 years. Based on predictions through 2032, the service area is expected to have 131,502 residents living within 52,045 households.

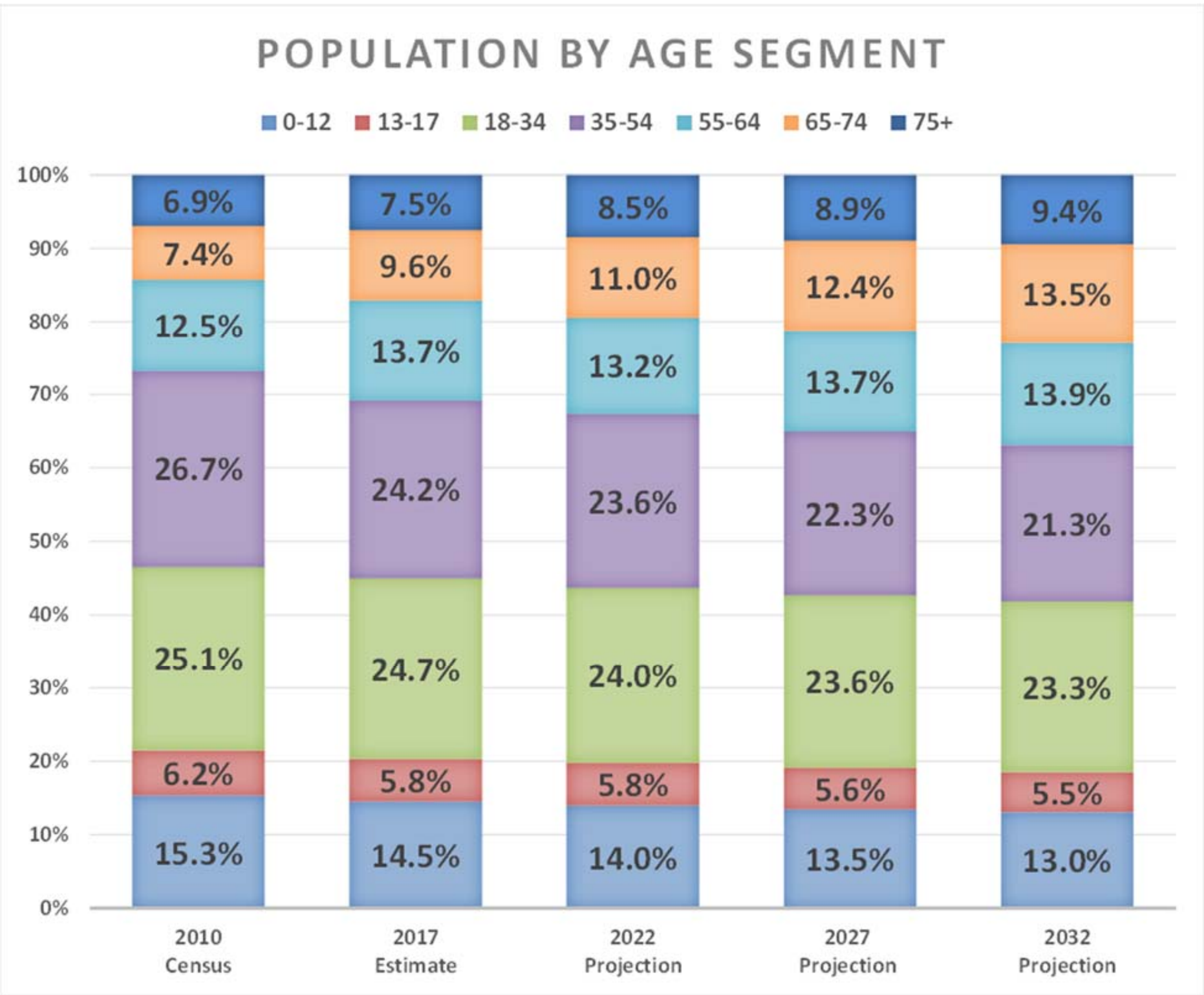


1.3.2 AGE SEGMENT

Evaluating the population by age segments, the service area exhibits a fairly balanced distribution among the major age segments. Currently, the largest age segment is the 55+, making up 30.8% of the population.

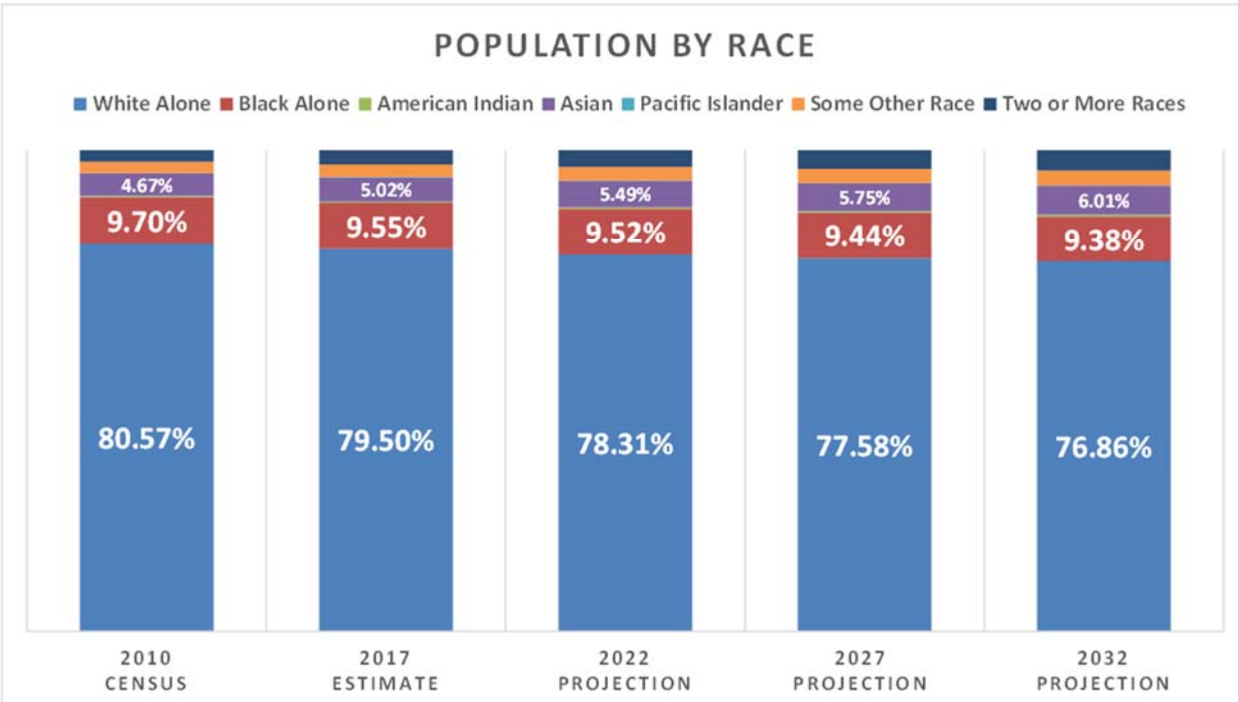
The overall age composition of the population within the County is projected to undergo an aging trend. While most of the younger age segments are expected to experience decreases in population percentage; those who are 55 and older are projected to continue increasing over the next 15 years, making up 36.8% of the population by 2032. This is assumed to be a consequence of a vast amount of the Baby Boomer generation shifting into the senior age segment.

Given the differences in how the active adults (55 and older) participate in recreation programs, the trend is moving toward having at least two to three different program age segments for older adults. When developing the park and recreation system, the County should evaluate recreation experiences that would cater to active adults who are 55-64, 65-74, and 75+ age segments.

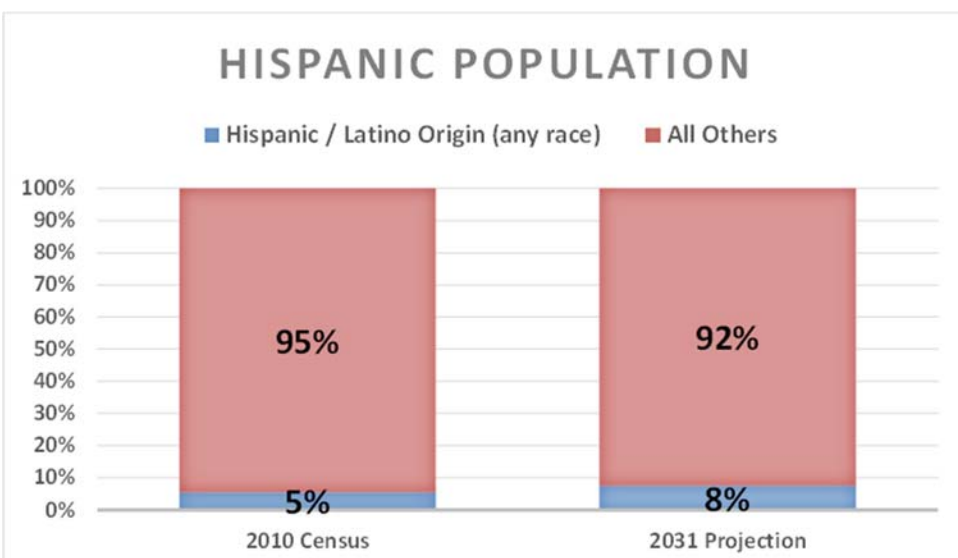


1.3.3 RACE AND ETHNICTY

In analyzing race, the service area's current populations are predominately White Alone. The 2017 estimates show that 79.5% of the service area's population falls into the White Alone category, while the Black Alone category (9.55%) represents the largest minority. The predictions for 2021 expect that the service area's population by race will stay relatively unchanged with the most growth occurring in the Asian segment.

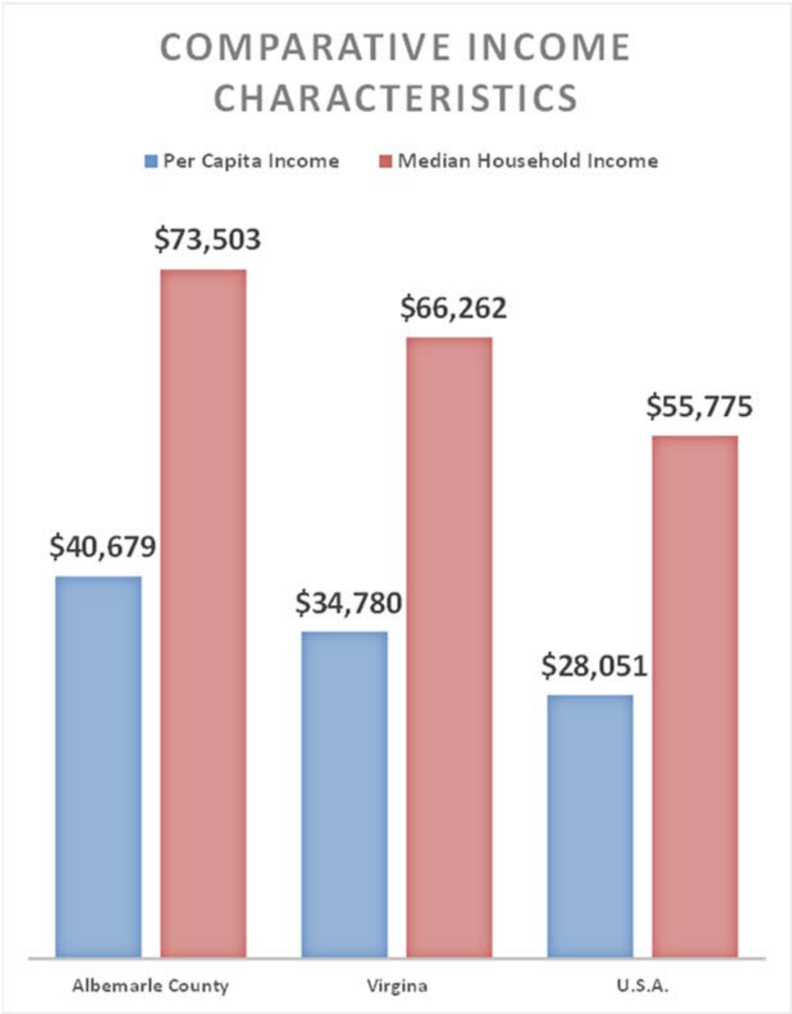


Based on the 2010 census, those of Hispanic/Latino origin represent 5% of the County's total population. The Hispanic/Latino population is expected to experience a slight increase to 8% by 2032.



1.3.4 HOUSEHOLDS AND INCOME

As seen in chart below, the County's per capita and median household income levels is well above state and national averages.



ALBEMARLE COUNTY DEMOGRAPHIC IMPLICATIONS

The following implications are derived from the analyses provided above. Each implication is organized by the outlined demographic information sections.

POPULATION

The population is significantly increasing and is projected to experience 21% population growth over the next 15 years. With a growing population, park and recreation services must continue to grow to keep up with the population. Additionally, development will continue over the next 15 years and the parks and recreation system will need to strategically invest, develop, and maintain parks and facilities in relation to current and future housing development areas.

AGE SEGMENTATION

Albemarle County has a very broad age segmentation with the largest group being 55+ with the second largest group being 18-34. This is significant as providing access to services and programs will need to be focused on multitude of age segments simultaneously and equally challenging as age segments have different likings towards activities. Equal distribution across all age segments will require the County to continue to provide programs, services, parks and facilities that appeal to all residents of the community.

RACE AND ETHNICITY

A slightly diversifying population will likely focus the County on providing traditional and non-traditional programming and service offerings while always seeking to identify emerging activities and sports

HOUSEHOLDS AND INCOME

With a median and per capita household income above the state and national averages, it would be important for the County to prioritize providing offerings that are first class with exceptional customer service while seeking opportunities to create revenue generation.

Chapter Two - RECREATION TRENDS ANALYSIS

The Trends Analysis provides an understanding of national, regional, and local recreational trends as well as recreational interest by age segments. Trends data used for this analysis was obtained from Sports & Fitness Industry Association's (SFIA), National Recreation and Park Association (NRPA), and Environmental Systems Research Institute, Inc. (ESRI). All trends data is based on current and/or historical participation rates, statistically valid survey results, or NRPA Park Metrics.

2.1 METHODOLOGY

The Sports & Fitness Industry Association's (SFIA*) Sports, Fitness & Recreational Activities Topline Participation Report 2020* was utilized in evaluating the following trends:

- National Recreation Participatory Trends.
- Core vs. Casual Participation Trends.
- Non-Participant Interest by Age Segment.

The study is based on findings from surveys carried out in 2019 by the Physical Activity Council (PAC), resulting in a total of 18,000 online interviews. Surveys were administered to all genders, ages, income levels, regions, and ethnicities to allow for statistical accuracy of the national population. A sample size of 18,000 completed interviews is considered by SFIA to result in a high degree of statistical accuracy. A sport with a participation rate of five percent has a confidence interval of plus or minus 0.32 percentage points at a 95 percent confidence level. Using a weighting technique, survey results are applied to the total U.S. population figure of 302,756,603 people (ages six and older).

The purpose of the report is to establish levels of activity and identify key participatory trends in recreation across the U.S. This study looked at 122 different sports/activities and subdivided them into various categories including: sports, fitness, outdoor activities, aquatics, etc.

CORE VS. CASUAL PARTICIPATION

In addition to overall participation rates, SFIA further categorizes active participants as either core or casual participants based on frequency of participation. Core participants have higher participatory frequency than casual participants. The thresholds that define casual versus core participation may vary based on the nature of each individual activity. For instance, core participants engage in most fitness activities more than 50-times per year, while for sports, the threshold for core participation is typically 13-times per year.

In a given activity, core participants are more committed and tend to be less likely to switch to other activities or become inactive (engage in no physical activity) than casual participants. This may also explain why activities with more core participants tend to experience less pattern shifts in participation rates than those with larger groups of casual participants.

2.2 NATIONAL TRENDS IN OUTDOOR RECREATION

PARTICIPATION LEVELS

Results from the SFIA report demonstrate a contrast of growth and decline in participation regarding outdoor/adventure recreation activities. Much like the general fitness activities, these activities encourage an active lifestyle, can be performed individually or within a group, and are not as limited by time constraints. In 2019, the most popular activities, in terms of total participants, from the outdoor/adventure recreation category include: Day Hiking (49.7 million), Road Bicycling (39.4 million), Freshwater Fishing (39.2 million), and Camping within ¼ mile of Vehicle/Home (28.2 million), and Recreational Vehicle Camping (15.4 million).

Hiking	Bicycling	Fishing	Camping	Camping
(Day)	(Road)	(Freshwater)	(<¼mi. of Car/Home)	(Recreational Vehicle)
49.7 Million	39.4 Million	39.2 Million	28.2 Million	15.4 Million

FIVE-YEAR TREND

From 2014-2019, BMX Bicycling (55.2%), Day Hiking (37.2%), Fly Fishing (20.1%), Salt Water Fishing (11.6%), and Mountain Bicycling (7.2%) have undergone the largest increases in participation. The five-year trend also shows activities such as In-Line Roller Skating (-20.5%), Archery (-11.7%), and Adventure Racing (-9.5%) experiencing the largest decreases in participation.

ONE-YEAR TREND

The one-year trend shows activities growing most rapidly being BMX Bicycling (6.1%), Day Hiking (3.8%), and Birdwatching (3.8%). Over the last year, activities that underwent the largest decreases in participation include: Climbing (-5.5%), In-Line Roller Skating (-4.4%), and Camping with a Recreation Vehicle (-3.5%).

CORE VS. CASUAL TRENDS IN OUTDOOR RECREATION

A majority of outdoor activities have experienced participation growth in the last five- years. Although this a positive trend, it should be noted that all outdoor activities participation, besides adventure racing, consist primarily of casual users. This is likely why we see a lot of fluctuation in participation numbers, as the casual users likely found alternative activities to participate in.

National Participatory Trends - Outdoor / Adventure Recreation					
Activity	Participation Levels			% Change	
	2014	2018	2019	5-Year Trend	1-Year Trend
Hiking (Day)	36,222	47,860	49,697	37.2%	3.8%
Bicycling (Road)	39,725	39,041	39,388	-0.8%	0.9%
Fishing (Freshwater)	37,821	38,998	39,185	3.6%	0.5%
Camping (< 1/4 Mile of Vehicle/Home)	28,660	27,416	28,183	-1.7%	2.8%
Camping (Recreational Vehicle)	14,633	15,980	15,426	5.4%	-3.5%
Fishing (Saltwater)	11,817	12,830	13,193	11.6%	2.8%
Birdwatching (>1/4 mile of Vehicle/Home)	13,179	12,344	12,817	-2.7%	3.8%
Backpacking Overnight	10,101	10,540	10,660	5.5%	1.1%
Bicycling (Mountain)	8,044	8,690	8,622	7.2%	-0.8%
Archery	8,435	7,654	7,449	-11.7%	-2.7%
Fishing (Fly)	5,842	6,939	7,014	20.1%	1.1%
Skateboarding	6,582	6,500	6,610	0.4%	1.7%
Roller Skating, In-Line	6,061	5,040	4,816	-20.5%	-4.4%
Bicycling (BMX)	2,350	3,439	3,648	55.2%	6.1%
Climbing (Traditional/Ice/Mountaineering)	2,457	2,541	2,400	-2.3%	-5.5%
Adventure Racing	2,368	2,215	2,143	-9.5%	-3.3%
NOTE: Participation figures are in 000's for the US population ages 6 and over					
Legend:	Large Increase (greater than 25%)	Moderate Increase (0% to 25%)	Moderate Decrease (0% to -25%)	Large Decrease (less than -25%)	

2.3 NATIONAL TRENDS IN WATER SPORTS / ACTIVITIES

PARTICIPATION LEVELS

The most popular water sports / activities based on total participants in 2019 were Recreational Kayaking (11.4 million), Canoeing (8.9 million), and Snorkeling (7.7 million). It should be noted that water activity participation tends to vary based on regional, seasonal, and environmental factors. A region with more water access and a warmer climate is more likely to have a higher participation rate in water activities than a region that has a long winter season or limited water access. Therefore, when assessing trends in water sports and activities, it is important to understand that fluctuations may be the result of environmental barriers which can greatly influence water activity participation.

FIVE-YEAR TREND

Over the last five years, Stand-Up Paddling (29.5%) and Recreational Kayaking (28.5%) were the fastest growing water activity, followed by White Water Kayaking (9.9%) and Surfing (8.9%). From 2014-2019, activities declining in participation most rapidly were Water Skiing (-20.1%), Jet Skiing (-19.6%), Scuba Diving (-13.7%), Wakeboarding (-12.7%), and Snorkeling (-12.5%).

ONE-YEAR TREND

Similarly, to the five-year trend, Recreational Kayaking (3.3%) and Stand-Up Paddling (3.2%) also had the greatest one-year growth in participation, from 2018-2019. Activities which experienced the largest decreases in participation in the most recent year include: Boardsailing/Windsurfing (-9.7%), Sea Kayaking (-5.5), and Water Skiing (-4.8%).

CORE VS. CASUAL TRENDS IN WATER SPORTS/ACTIVITIES

As mentioned previously, regional, seasonal, and environmental limiting factors may influence the participation rate of water sport and activities. These factors may also explain why all water-based activities have drastically more casual participants than core participants, since frequencies of activities may be constrained by uncontrollable factors. These high casual user numbers are likely why a majority of water sports/activities have experienced decreases in participation in recent years.

National Participatory Trends - Water Sports / Activities					
Activity	Participation Levels			% Change	
	2014	2018	2019	5-Year Trend	1-Year Trend
Kayaking (Recreational)	8,855	11,017	11,382	28.5%	3.3%
Canoeing	10,044	9,129	8,995	-10.4%	-1.5%
Snorkeling	8,752	7,815	7,659	-12.5%	-2.0%
Jet Skiing	6,355	5,324	5,108	-19.6%	-4.1%
Sailing	3,924	3,754	3,618	-7.8%	-3.6%
Stand-Up Paddling	2,751	3,453	3,562	29.5%	3.2%
Rafting	3,781	3,404	3,438	-9.1%	1.0%
Water Skiing	4,007	3,363	3,203	-20.1%	-4.8%
Surfing	2,721	2,874	2,964	8.9%	3.1%
Wakeboarding	3,125	2,796	2,729	-12.7%	-2.4%
Scuba Diving	3,145	2,849	2,715	-13.7%	-4.7%
Kayaking (Sea/Touring)	2,912	2,805	2,652	-8.9%	-5.5%
Kayaking (White Water)	2,351	2,562	2,583	9.9%	0.8%
Boardsailing/Windsurfing	1,562	1,556	1,405	-10.1%	-9.7%
NOTE: Participation figures are in 000's for the US population ages 6 and over					
Legend:	Large Increase (greater than 25%)	Moderate Increase (0% to 25%)	Moderate Decrease (0% to -25%)	Large Decrease (less than -25%)	

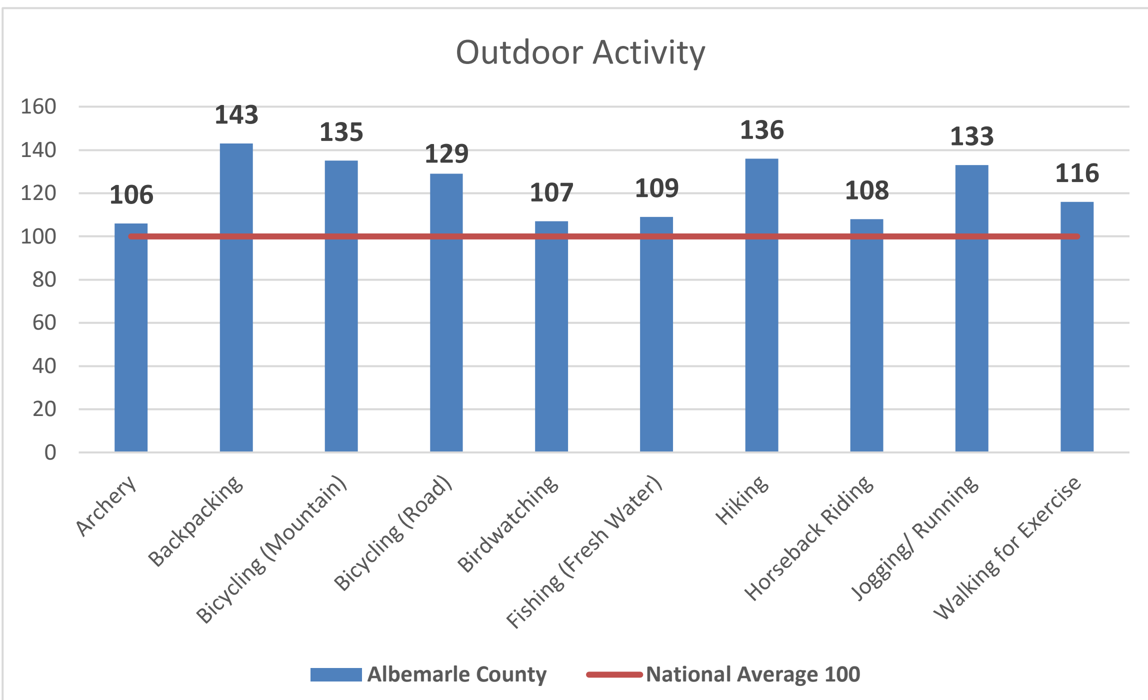
2.4 LOCAL MARKET POTENTIAL

The following charts show sport and leisure market potential data from ESRI. A Market Potential Index (MPI) measures the probable demand for a product or service within the County and its surrounding service area. The MPI shows the likelihood that an adult resident of the target area will participate in certain activities when compared to the US National average. The national average is 100, therefore numbers below 100 would represent a lower than average participation rate, and numbers above 100 would represent higher than average participation rate. The service area is compared to the national average in outdoor activity.

Overall, Albemarle County demonstrate rather high market potential index (MPI) numbers; this is particularly noticeable when assessing the outdoor activity market potential table. All activities from the outdoor activity market potential table have MPI scores of 100+. These overall high MPI scores show that Albemarle County has particularly strong participation rates when it comes to outdoor recreational activities. This becomes significant for when the consideration is given to constructing new amenities at Buck Mountain as it provides a strong tool to estimate utilization.

High index numbers (100+) are significant because they demonstrate that there is a greater potential that residents of the service area will actively participate in offerings provided at Buck Mountain.

2.4.1 OUTDOOR ACTIVITY



2.5 BUCK MOUNTAIN COMPATIBILITY USE ANALYSIS

The following chart identifies the compatibility of potential uses at Buck Mountain. As noted in the chart, both active and passive recreation uses scored as high or higher than any of the other potential uses that were evaluated.

	FEASIBILITY														
	RWSA Objectives				*Regulations*			*Site Requirements*			*Market Analysis*				***Score***
USES	Water Supply and Protection	Public Engagement	Increase # of "green projects"	Future resevoir potential	Zoning: By-right	Zoning: Special Use Permit	Conservation easement compatable	No road access required	No water/sewer required	Steep slope compatable	Market potential	Partnership potential	Revenue generation potential	Lmtd long-term RWSA oversight req	
Divestment															
Sell Land		1					1	1	1	1	1		1	1	**8**
Land Management															
Property Access Agreements	5	1		3			1		1	1	1	1	1		**15**
Land Leasing	5	1		3			1	1	1	1	1		1		**15**
Passive Recreation															
Hiking Trail	5	2		3	2		1	1	1	1	3	1			**20**
Equestrian Trail	5	1		3	2		1	1	1	1	1				**16**
Mountain Biking Trail	5	2		3	2			1	1	1	3	1			**19**
Fishing	5	2		3	2		1	1	1	1	1		1		**18**
Hunting	5	2		3	2		1	1	1	1	2	1	1		**20**
Active Recreation															
Archery	5	2		3	2				1		1	1		1	**15**
Camping	3	2		3		1					3	1	1	1	**15**
Development															
Brewery/winery/distillery	1	2		1	2						1	1	1	1	**10**
Restaurant	1	2		1		1					1	1	1	1	**9**
Environmental Center	1	2		1		1					1	1	1	1	**9**
Other (horse stable, vet, etc zoning permitted)	1	1		1		1					1	1	1	1	**8**
Resource Development															
Solar	4		1	3		1			1		3	1	1	1	**15**
Wind	4		1	3	2				1		3	1	1	1	**16**
Silviculture	1			3	2				1	1	3	1	1		**13**
Plant nursery	4	1	1	3							1	1	1	1	**13**

2.6 SUMMARY

There is a high level of synergy between the national and local recreation trends and the compatibility of recreation uses at Buck Mountain. RWSA should consider formally activating portions of Buck Mountain for active and passive recreational uses via partnerships.

Chapter Three – STRATEGIC PARTNERSHIPS

Today's economic climate and political realities require the Rivanna Water and Sewer Authority to seek productive and meaningful partnerships in order to deliver high quality services at Buck Mountain. The following sections provide an overview of opportunities and strategies for developing partnerships within the community.

3.1 POLICY FRAMEWORK

The initial step in developing multiple partnerships in the community that expand upon existing relationships is to have an overall partnership philosophy that is supported by a policy framework for establishing and managing these relationships. The policies recommended below will promote fairness and equity within existing and future partnerships while helping staff members to avoid conflicts internally and externally. The recommended partnership principles are as follows:

- All partnerships require a working agreement with measurable outcomes and evaluation on a regular basis. This should include reports to the RWSA on the performance of the partnership vis-à-vis the agreed-to goals and objectives.
- All partnerships should track costs associated with the partnership investment to demonstrate the appropriate shared level of equity.
- A partnership culture should emerge and be sustained that focuses on collaborative planning on a regular basis, regular communications, and annual reporting on performance.

The following policies are recommended for implementation by RWSA as it relates to Buck Mountain.

3.2 PARTNERSHIP POLICIES AND PRACTICES

Partnerships can be pursued and developed with other public entities, such as neighboring cities, schools, colleges, state or federal agencies; private, non-profit organizations; and private, for-profit organizations.

3.2.1 ALL PARTNERSHIPS

- Each partner will meet with or report to RWSA staff on a regular basis to plan activities and shared activity-based costs.
- Partners will establish measurable outcomes and work through key issues in order to meet the desired outcomes.
- Each partner will focus on meeting the balance of equity agreed to and will track investment costs accordingly.
- Measurable outcomes will be reviewed at least annually and shared with each partner, with adjustments made as needed.
- A working partnership agreement will be developed and monitored together on a quarterly or as-needed basis.
- Each partner will assign a liaison for communications and planning purposes.
- If conflicts arise between partners, the Executive Director of RWSA or his/her designee, along with the other partner's highest-ranking officer assigned to the agreement will meet to resolve the issue(s) in a timely manner. Any exchange of money or traded resources will be based on

the terms of the partnership agreement. Each partner will meet with the other partner's respective board or managing representatives annually to share updates and report the outcomes of the partnership agreement.

3.2.2 PUBLIC/PUBLIC PARTNERSHIPS

The policy for public/public partnerships is evident with RWSA based on their working with the City of Charlottesville, Albemarle County and the State of Virginia. Working together on the development, sharing, and/or operating of facilities and programs at Buck Mountain will be as follows:

- Each partner will meet with the RWSA Board and staff annually to plan and share activity-based costs and equity invested by each partner in the partnership
- Partners will establish measurable outcomes and work through key issues to focus on for the coming year between each partner to meet the outcomes desired
- Each partner will focus on meeting a balance of 50% equity for each agreed-to partnership and track investment costs accordingly
- Each partner will assign a liaison to serve each partnership agency for communication and planning purposes
- Measurable outcomes will be reviewed quarterly and shared with each partner, with adjustments made as needed
- Each partner will act as an agent for the other partner, thinking collectively as one, not two separate agencies for purposes of the agreement
- Each partner will meet with the other partner's respective board or owner annually, to share results of the partnership agreement
- A working partnership agreement will be developed and monitored together on a quarterly or as-needed basis
- If conflicts arise between partners, the Executive Director of RWSA along with the other public agency's highest ranking officer will meet to resolve the partnership issue. It should be resolved at the highest level or the partnership will be dissolved
- No exchange of money between partners will be made until the end of the partnership year. A running credit will be established that can be settled at the end of the planning year with one check or will be carried over to the following year as a credit with adjustments made to the working agreement to meet the 50% equity level desired

3.2.3 PUBLIC/NOT-FOR-PROFIT PARTNERSHIPS

The partnership policy for public/not-for-profit partnerships with RWSA and the not-for-profit community of service providers is seen in associations working together in the development and management of facilities and programs at Buck Mountain. These principles are as follows:

- The not-for-profit partner agency or group involved with RWSA must first recognize that they are in a partnership with the Department to provide a public service or good; conversely, the Department must manage the partnership in the best interest of the community as a whole, not in the best interest of the not-for-profit agency

- The partnership working agreement will be year-to-year and evaluated based on the outcomes determined for the partnership agencies or groups during the planning process at the start of the partnership year. At the planning workshop, each partner will share their needs for the partnership and outcomes desired. Each partner will outline their level of investment in the partnership as it applies to money, people, time, equipment, and the amount of capital investment they will make in the partnership for the coming year
- Each partner will focus on meeting a balance of 50% equity or as negotiated and agreed upon as established in the planning session with RWSA. Each partner will demonstrate to the other the method each will use to track costs, and how it will be reported on a monthly basis, and any revenue earned
- Each partner will appoint a liaison to serve each partnering agency for communication purposes
- Measurable outcomes will be reviewed quarterly and shared with each partner, with adjustments made, as needed
- Each partner will act as an agent for the other partner to think collectively as one, not two separate agencies. Items such as financial information will be shared if requested by either partner when requested to support a better understanding of the resources available to the partnership
- Each partner will meet the other's respective board on a yearly basis to share results of the partnership agreement
- If conflicts should arise during the partnership year, the Executive Director of RWSA and the highest-ranking officer of the not- for-profit agency will meet to resolve the issue
- It should be resolved at this level, or the partnership will be dissolved. No other course of action will be allowed by either partner
- Financial payments by the not-for-profit agency will be made monthly to RWSA as outlined in the working agreement to meet the 50% equity level of the partnership

3.2.4 PARTNERSHIPS WITH PRIVATE, FOR-PROFIT ENTITIES

The recommended policies and practices for public/private partnerships that may include businesses, private groups, private associations, or individuals who desire to make a profit from the use of Buck Mountain are detailed below. These can also apply to partnerships where a private party wishes to develop a facility, provide a service, or has a contract to provide a task or service on the RWSA's behalf at Buck Mountain. These partnership principles are as follows:

- Upon entering into an agreement with a private business, group, association, or individual, the RWSA staff and leadership should recognize that the importance of allowing the private entity to meet its financial objectives within reasonable parameters that protect the mission, goals, and integrity of RWSA.
- As an outcome of the partnership, RWSA must receive a designated fee that may include a percentage of gross-revenue dollars less sales tax on a regular basis, as outlined in the contract agreement.
- The working agreement of the partnership must establish a set of measurable outcomes to be achieved, as well as the method of monitoring those outcomes. The outcomes will include

standards of quality, financial reports, customer satisfaction, payments to RWSA, and overall coordination for the services rendered.

- Depending on the level of investment made by the private contractor, the partnership agreement can be limited to months, one year, or multiple years.
- If applicable, the private contractor will provide a working management plan annually to ensure the outcomes desired by RWSA. The management plan will be negotiated if necessary. Monitoring the management plan will be the responsibility of both partners. The Department should allow the contractor to operate freely in its best interest, as long as the agreed-to outcomes are achieved and the terms of the partnership agreement are adhered to.
- The private contractor should not lobby the RWSA Board for initial establishment or renewal of a contract. Any such action will be cause for termination of the contract. All negotiations must be with the Department Director or that person's designee.
- RWSA has the right to advertise for privately- contracted partnership services or to negotiate on an individual basis using a bid process based on the professional level of the service to be provided.
- If conflicts arise between both partners, the highest-ranking officers from both sides will try to resolve the issue before turning to litigation. If no resolution can be achieved, the partnership shall be dissolved.

3.3 PARTNERSHIP OPPORTUNITIES

The recommended partnership policies encourage four classifications of partner – public not-for-profit, public for-profit, private not-for-profit, and private for profit. This section of the partnership plan further organizes partners within these classifications as having an area of focus relevant to the type of service/benefits being received and shared. The five areas of focus are:

- Operational Partners – Other entities and organizations that can support the efforts of the Rivanna Water and Sewer Authority to maintain facilities and assets, promote amenity- and recreation-usage, support site needs, provide programs and events, and/or maintain the integrity of natural/cultural resources through in-kind labor, equipment, or materials.
  - *KEY POTENTIAL PARTNER: ALBEMARLE COUNTY PARKS AND RECREATION DEPARTMENT*
- Vendor Partners – Service providers and/or contractors that can gain brand association and popularity as a preferred vendor or supporter of the in exchange for reduced rates, services, or some other agreed-upon benefit.
  - *KEY STRATEGY: ISSUE A REQUEST FOR INTEREST (RFI)*
- Service Partners – Organizations and/or friends-of-recreation groups that support the efforts of the RWSA to provide programs and events at Buck Mountain, including serving specific constituents in the community collaboratively.
  - *KEY STRATEGY: ISSUE A REQUEST FOR INTEREST (RFI)*

Strategic Plan
Year Two Update

for the Board of Directors

Presented By: Katie McIlwee, Communications Manager

August 25, 2020

RIVANNA AUTHORITIES

Strategic Direction

Values

The Rivanna Water & Sewer and Solid Waste Authority are committed to the following values:

Integrity
Teamwork
Respect
Quality

Vision

To serve the community and be a recognized leader in environmental stewardship by providing exceptional water and solid waste services.

Mission

Our professional team of knowledgeable and engaged personnel serve the Charlottesville, Albemarle, and UVA community by providing high quality water treatment, refuse, and recycling services in a financially responsible manner.

Year 2 Implementation

Overall Completion: 72%

Workforce Development
To attract, develop, and retain a professional, highly skilled, dedicated, and versatile team

6 Goals

Environmental Stewardship
To be a leader in our community's environmental protection and education

Operational Optimization
To efficiently, reliably, and safely provide high quality services, assuring the best value for our customers

14 Strategies

Solid Waste Services
To provide reliable, convenient, and innovative solid waste and recycling services

Communication & Collaboration
To foster a culture that encourages open communications and strengthens relationships

58 Tactics

Infrastructure & Master Planning
To plan, deliver, and maintain dependable infrastructure in a financially responsible manner

Workforce Development

Overall Completion: 88%

Goal Team Leader: Betsy Nemeth & Lonnie Wood

Conduct Training Needs Assessment & Enhance the Training Program

- Began Individual Coaching Programs with PVCC
- Worked with PVCC on Mechanic Training Programs
- Developed more efficient approach to New Employee Orientation -now a full day: ½ HR/Benefits, ½ Safety
- Created New Employee Orientation video
- Developed Work From Home policy in response to COVID-19 pandemic

Next Steps:

- Implement the LinkedIn training platform for employee development
- Incorporate IT into the New Employee Orientation

Operational Optimization

Overall Completion: 89%

Goal Team Leader: Dave Tungate

Continually Evaluate, Prioritize, & Improve Key Business & Operational Process

- Completed study to evaluate biosolids disposal options
- Installed fiber internet at SR WTP
- Evaluated uniform providers and selected one
- Purchased new analyzer for the Lab to increase testing efficiency
- Reduced use of nutrient removal chemical at Moores Creek through efficient operations

Protect Workforce and the Public Through Continually Growing Rivanna's Culture of Safety

- Submitted water infrastructure protection plan to EPA in March 2020
- Web based cameras have been installed at SH, SR (raw and WTP) and Moores Creek (Septic rec, front gate, back gate) and North Rivanna
- Installed additional AEDs in each facility
- Purchased fall protection equipment
- Completed Safety Manual review and updates

Next Steps:

- Test new SR WTP fiber internet
- Research adding a sensor in the final effluent flume
- Add sensors in WW aeration process to provide real-time data
- Explore use of additional sensors in final effluent

- Emergency Response Plan will be submitted to EPA in September
- Add new web-based cameras to Glenmore and Scottsville WWTPs, and Crozet and Observatory WTPs

Communication & Collaboration

Overall Completion: 75%

Goal Team Leader: Katie McIlwee

Create & Maintain Internal Communication Platforms

- Began using MS Teams for meetings and collaboration
- Implementation of Document management system
- Published bi-monthly newsletter

Create & Implement a Comprehensive Public Outreach Plan

- Completed several facility videos and HR New Employee Welcome video
- Updated website with new photos

Enhance Internal & External Communication

- Began Imagine a Day Without Water Planning

Next Steps:

- Continue implementation of document management
- Continue to maintain high level of communication through Employee Council, Employee Newsletter, and Employee Portal

- Plan and schedule project/facility videos
- Continue maintenance of website

- Research use of Social Media
- Stream Board Meetings once in-person meetings resume

Environmental Stewardship

Overall Completion: 73%

Goal Team Leader: Andrea Terry

Increase Internal Environmental Engagement

- Rivanna River clean up and Day of Caring participation
- Regular roadside clean up outside of Ivy MUC

Provide Regional Leadership in Environmental Stewardship Partnerships

- Imagine a Day Without Water
- Rivanna Flow Fest
- Stormwater partnership
- Rivanna Renaissance Conference participation

Evaluate Potential Opportunities for Additional Environmental Activities at RWSA Facilities

- Completed Buck Mountain Master Plan
- Oyster shell collection at McIntire Recycling Center
- Political sign collection program
- Completed Wetland Mitigation and Grading project at Moores Creek

Next Steps:

- Continue to look for opportunities, such as stream cleanups, tree plantings, etc. to engage employees

- Continue to look for opportunities for collaboration

- Evaluate potential for use of solar at RWSA facilities
- Implement a property management Buck Mtn.

Solid Waste Services

Overall Completion: 50%

Goal Team Leader: Phil McKalips

Determine Community Needs & Preferred Service Levels

- Political sign collection program
- Completed Composting Master Plan
- Completed Forestry Master Plan
- Added additional recycling services – oyster shell, pizza box, cooking oil
- Compost for sale at Ivy MUC
- Completed new Ivy Convenience Center

Enhance Partnerships with Local Governments and UVA

- Partnered with VOSRP to set up oyster shell recycling container at McIntire
- Partnered with Five Star Septic to collected used cooking oil from MRC
- Toured McGill Environmental Facility, Spotsylvania Co. Landfill, Sonoco Recycling in Madison Heights and Sonoco Paper Mill in Richmond

Next Steps:

- Continue reaching out to schools, civic groups, etc. for tours and informational presentations
- Identify places at RSWA facilities and in the community for informational flyers
- Continue collaboration with SWAAC

- Sponsor a Regional Glass Recycling Pilot program w/ other localities
- Research to implement a "Rivanna Ambassadors Program"

Infrastructure & Master Planning

Overall Completion: 55%

Goal Team Leader: Scott Schiller

Implement an Authority-Wide Asset Management Program

- Completed an asset hierarchy structure and inventory for the Rivanna Pump Station
- Completed software demonstrations for a computerized maintenance management system (CMMS)
- Developed management strategy groups for Rivanna Pump Station assets

Develop & Maintain Long-Term Master Plans for all Critical Assets

- Completed Urban Water Supply and Demand Master Plan
- Developed draft procedure for updating and reviewing master planning needs
- Continued updating master plan matrix to include current and anticipated master planning efforts

Next Steps:

Implement an Authority-Wide Asset Management Program

- Schedule field condition assessment inspections for Rivanna Pump Station
- Participate in Risk Assessment and Level of Service Workshops
- Advertise quote package for CMMS procurement
- Implement the new CMMS Software

Develop & Maintain Long-Term Master Plans for all Critical Assets

- Finalize the procedure for updating and reviewing master planning needs
- Perform the annual master planning gap assessment
- Complete the Moores Creek WWTP Master Plan
- Complete the Finished Water Master Plan

Year 3 Implementation

6 Goals

↓

14 Strategies

↓

58 Tactics

Workforce Development
- Expand training opportunities

Operational Optimization
- Upgrades to multiple WTPs and WWTPs

Communication & Collaboration
- Implement Social Media

Environmental Stewardship
- Using VDH grant, implement watershed education

Solid Waste Services
- Continue to look for ways to expand and promote recycling and refuse services

Infrastructure & Master Planning
- Continue implementation of Asset Management Program

Questions?